

FIG. 1

Inventor: George BERTRAM

Title: DISPENSING SYSTEM WITH IN LINE CHEMICAL PUMP SYSTEM

Attorney Docket No.: 034017R004

REPLACEMENT SHEET

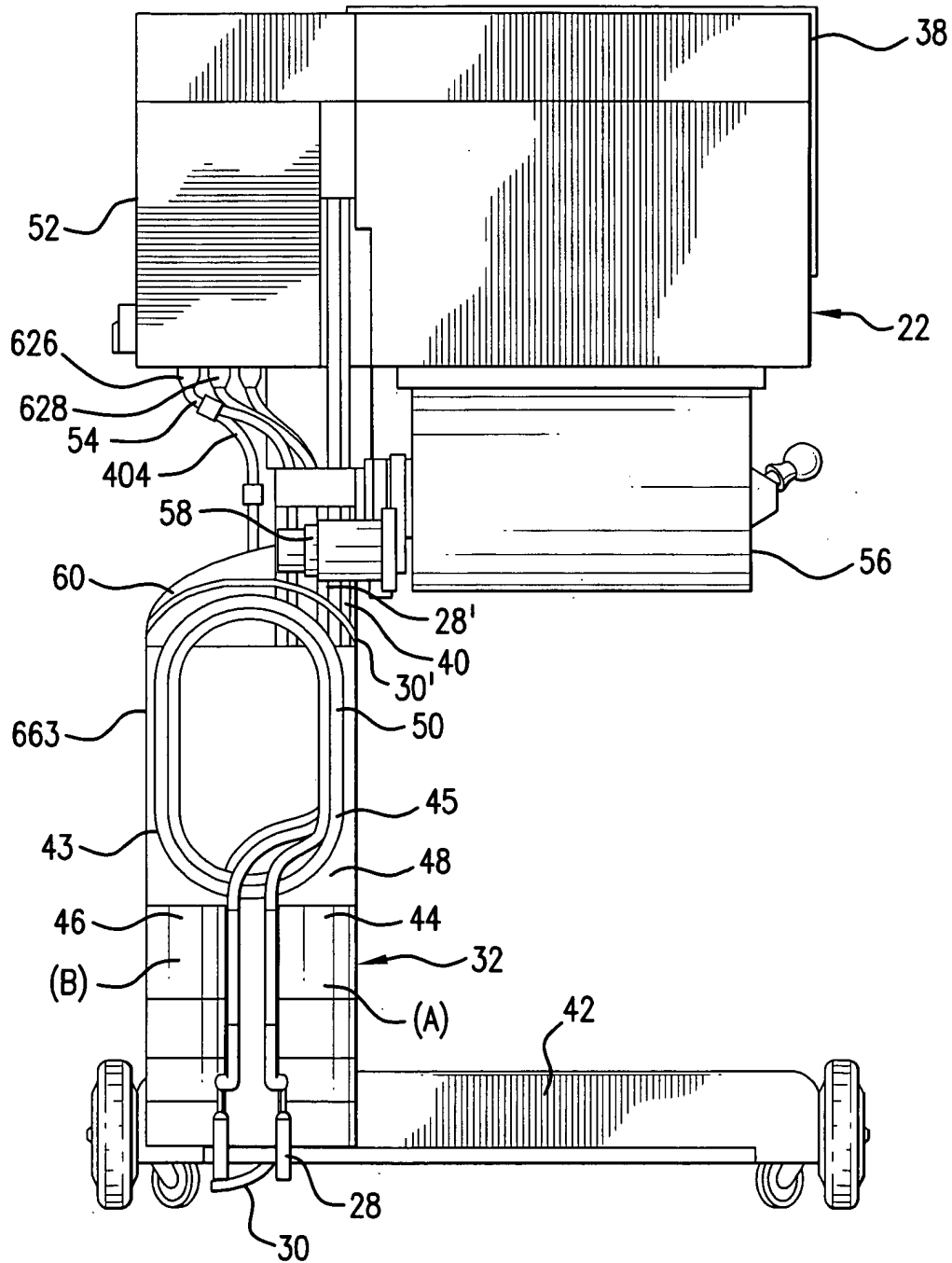


FIG. 2

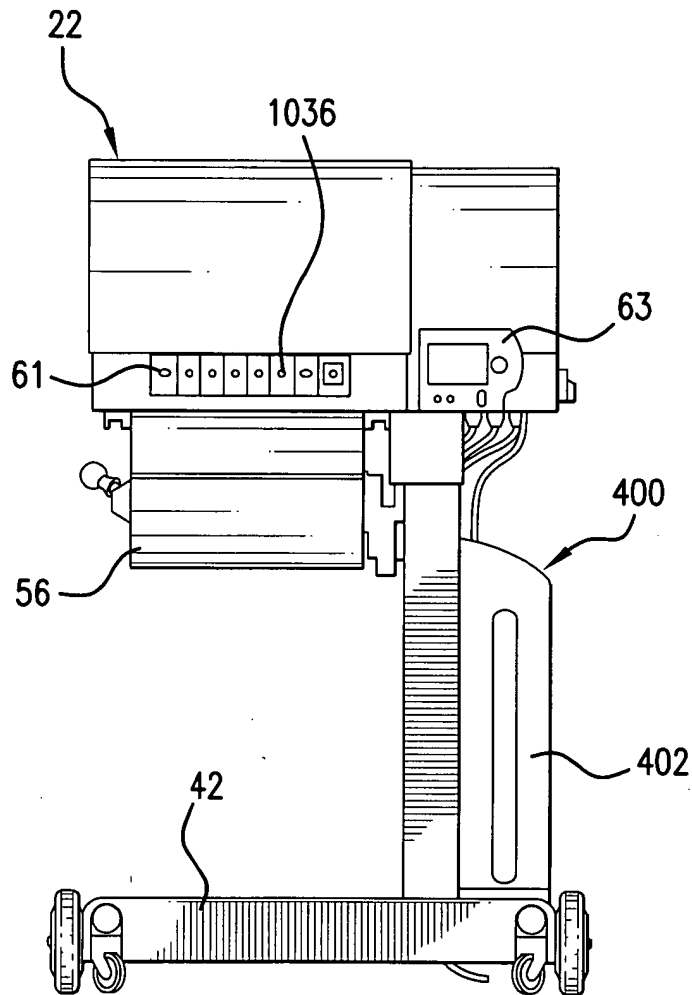
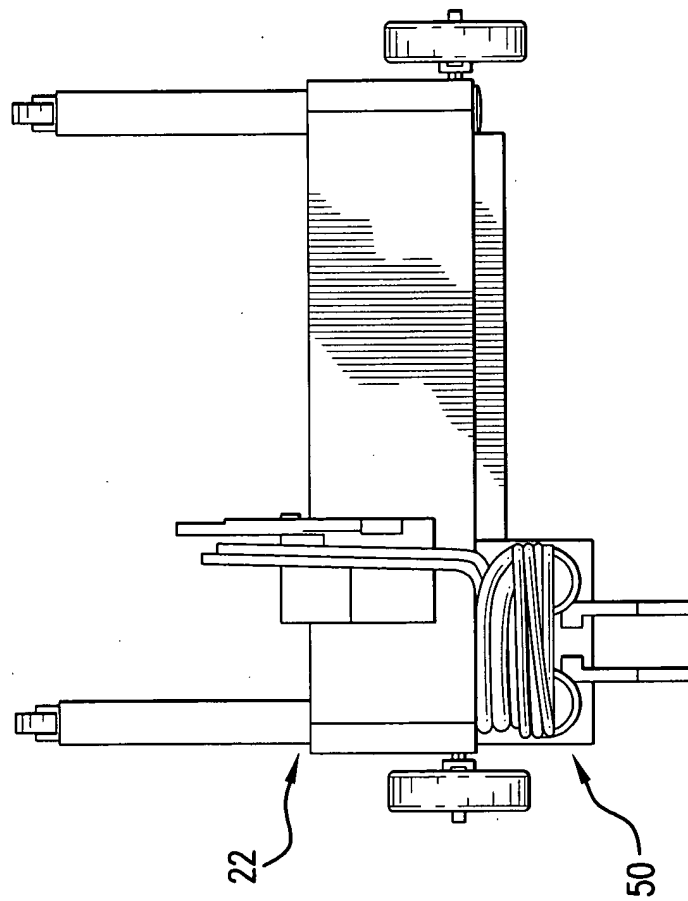


FIG. 3



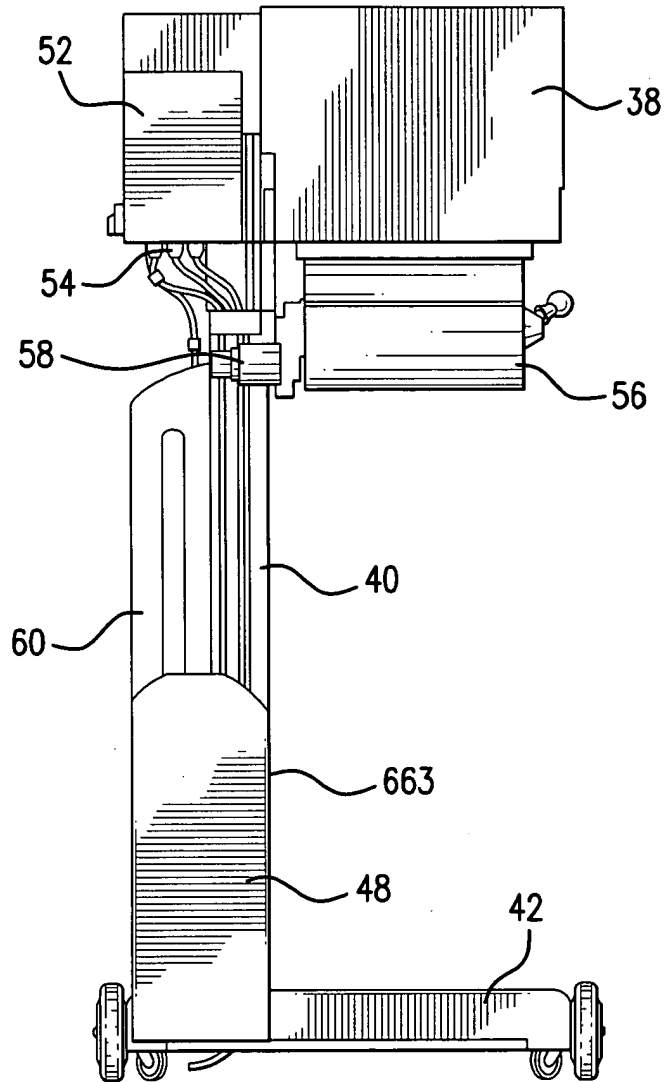


FIG. 5

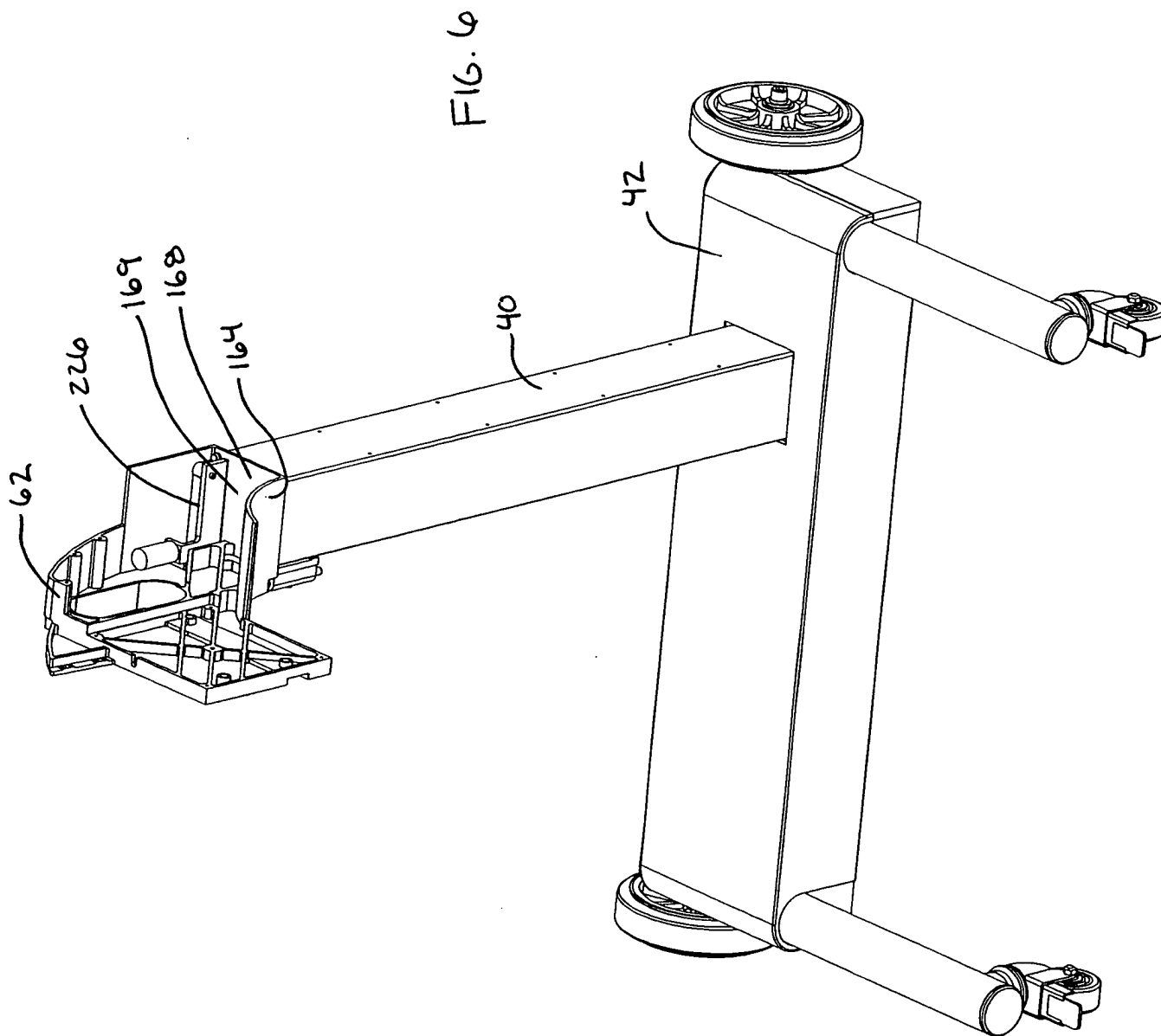
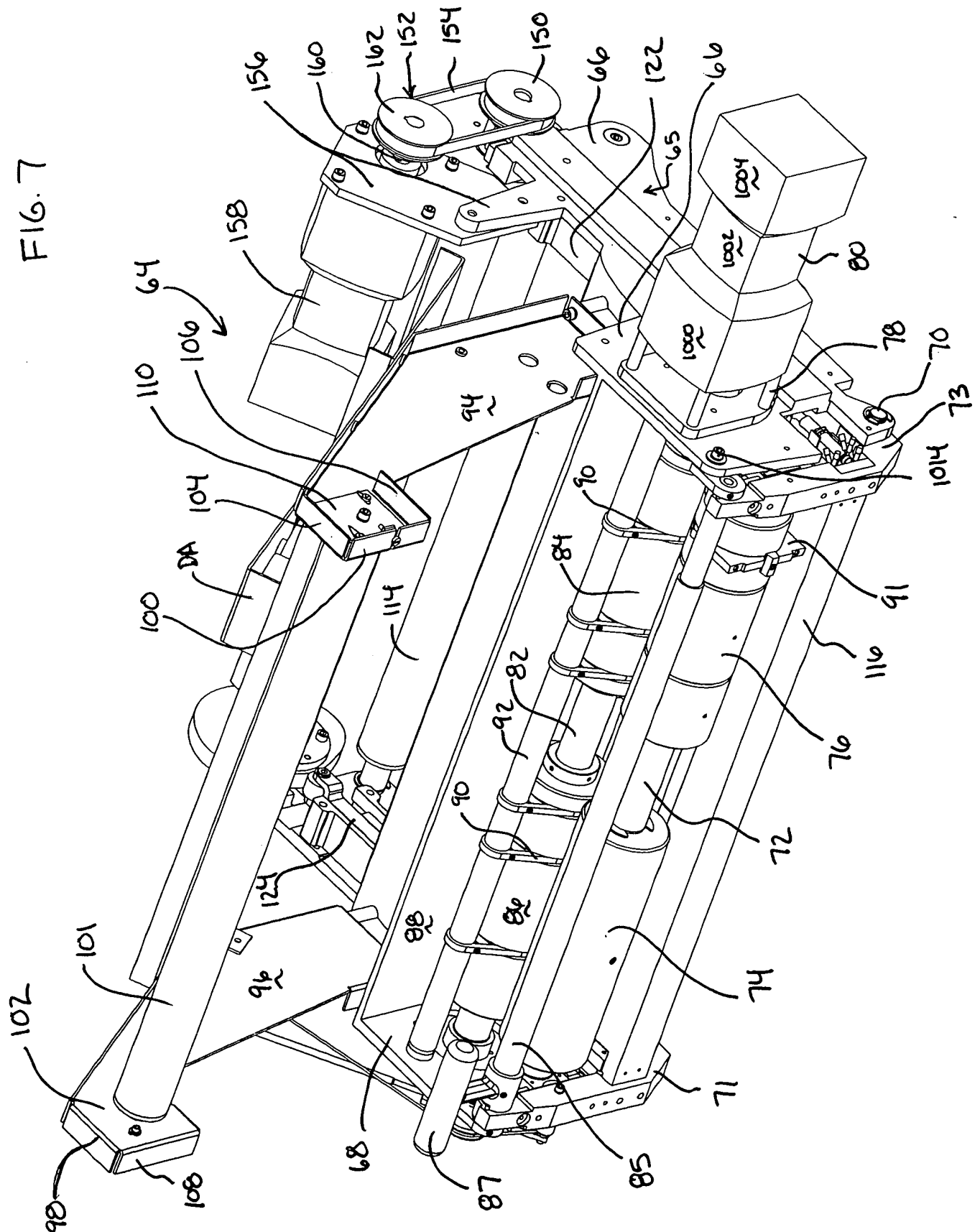


FIG. 7

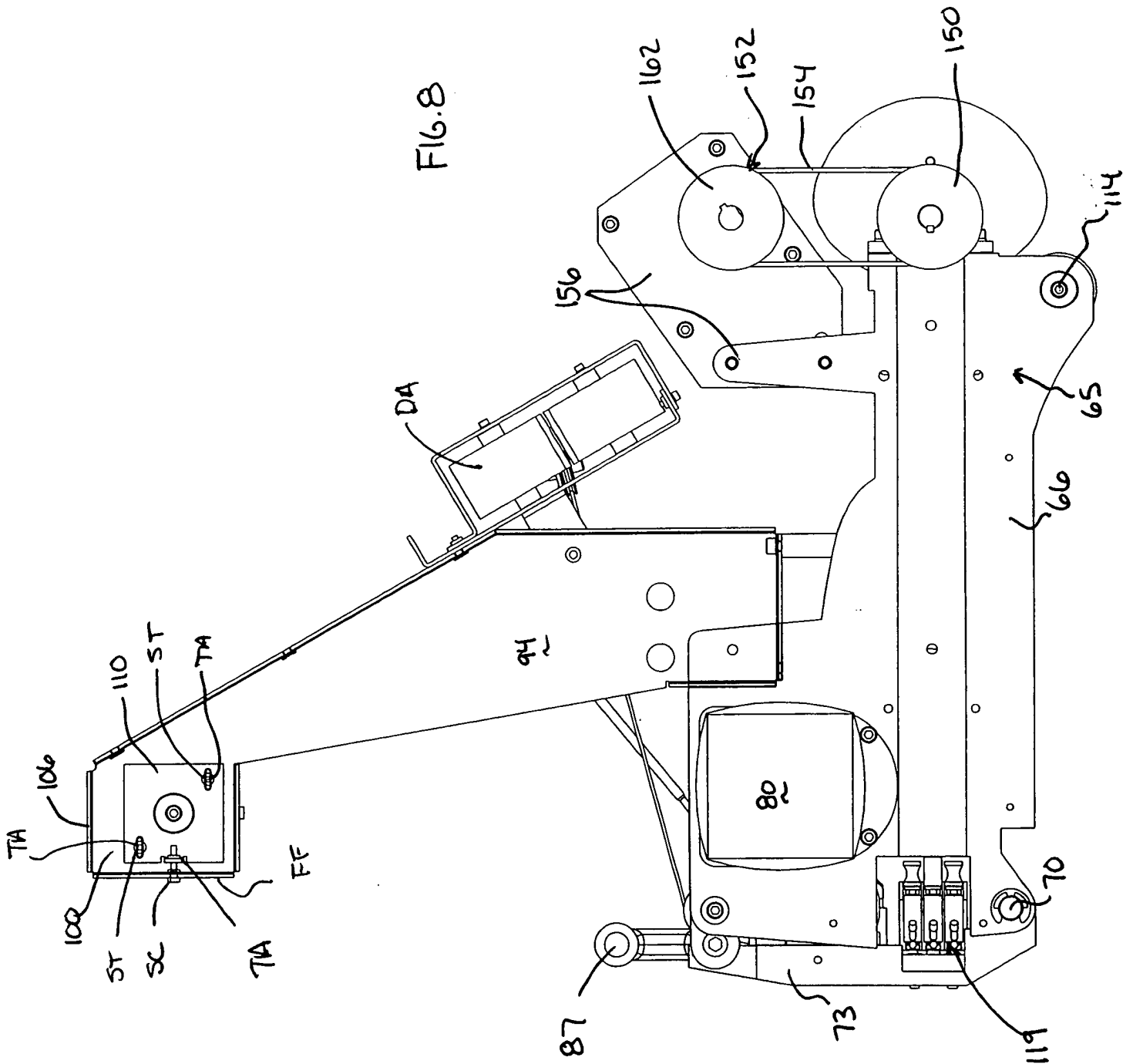


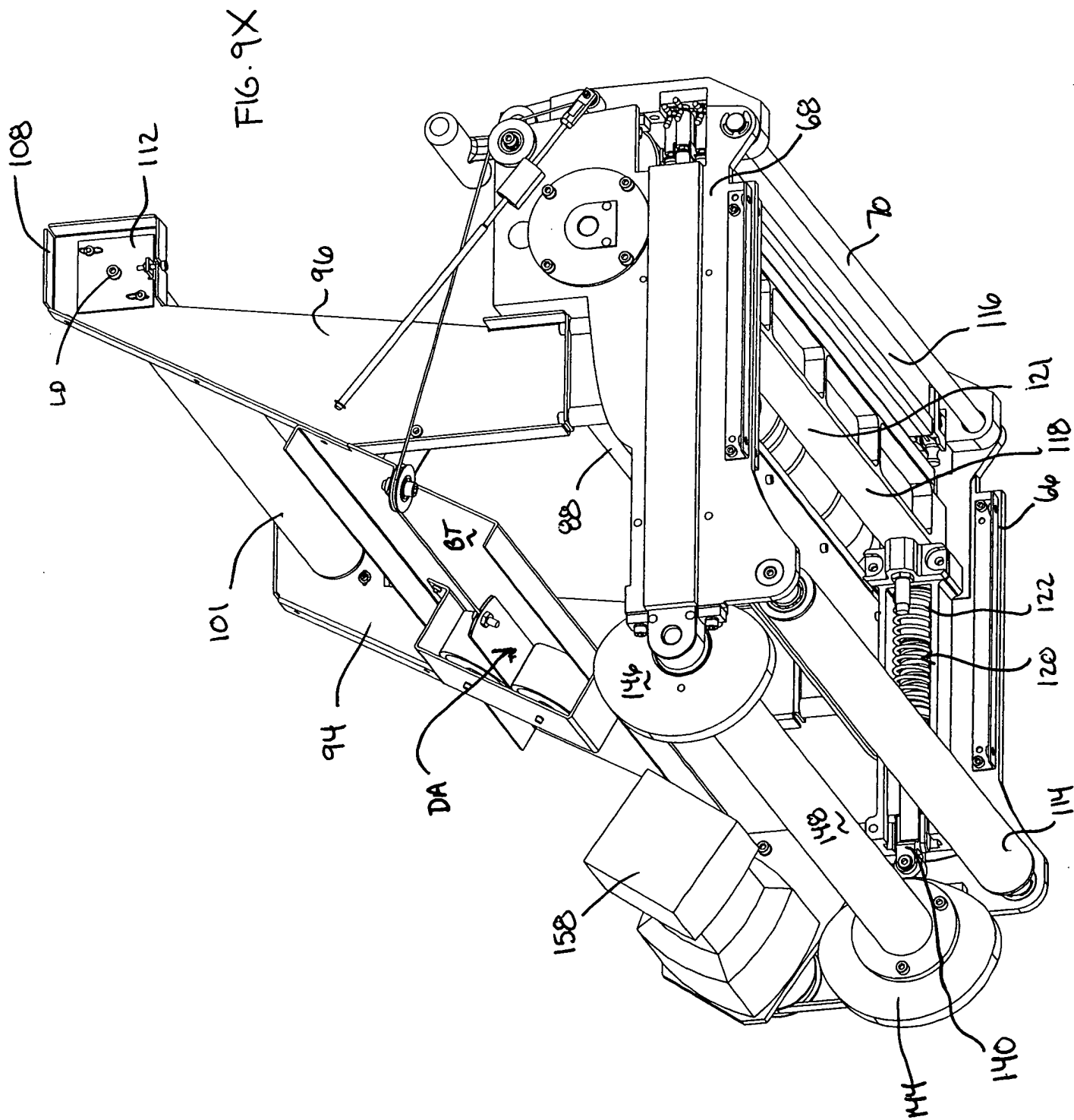
Inventor: George BERTRAM

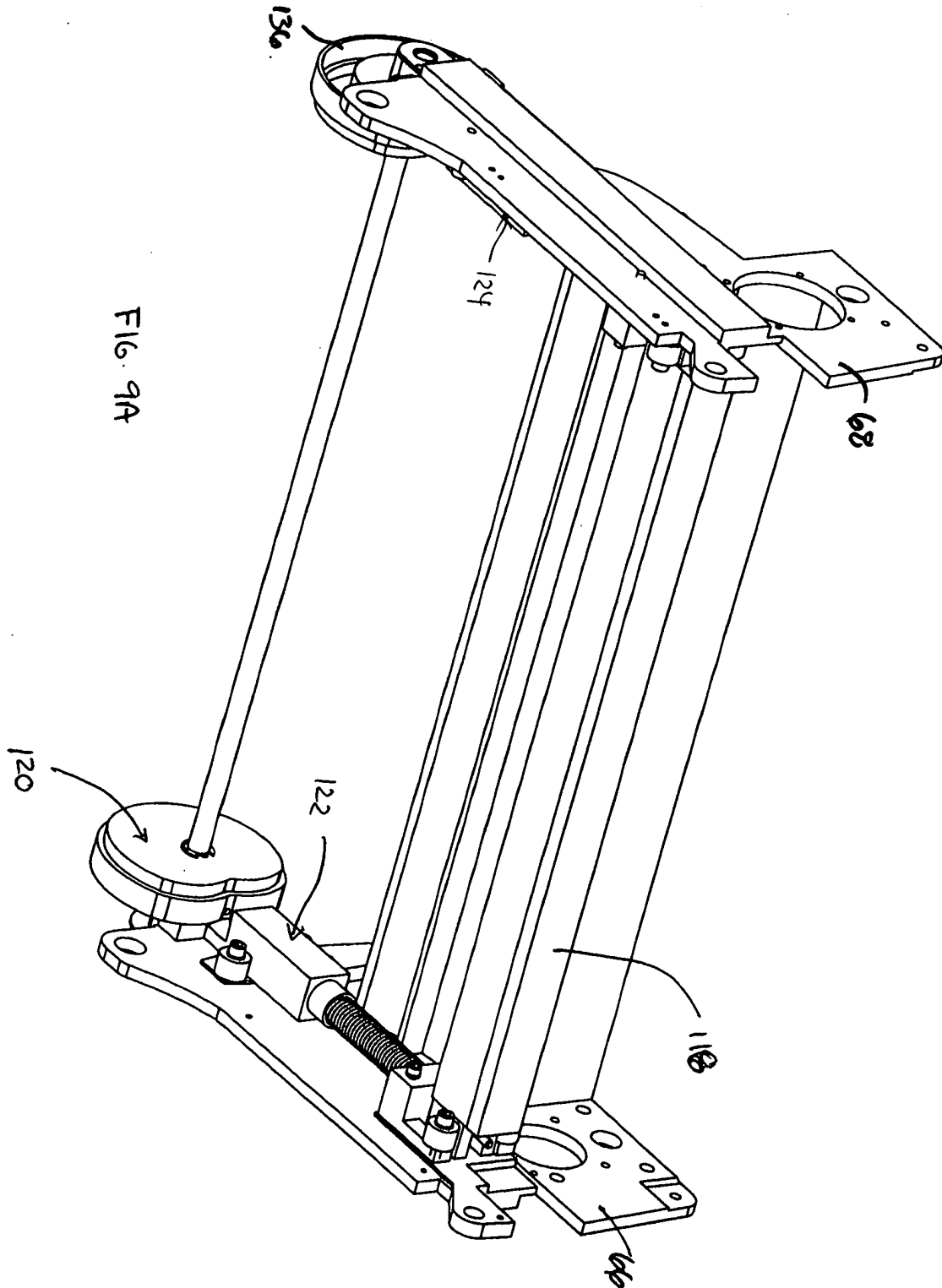
Title: DISPENSING SYSTEM WITH IN LINE CHEMICAL PUMP SYSTEM

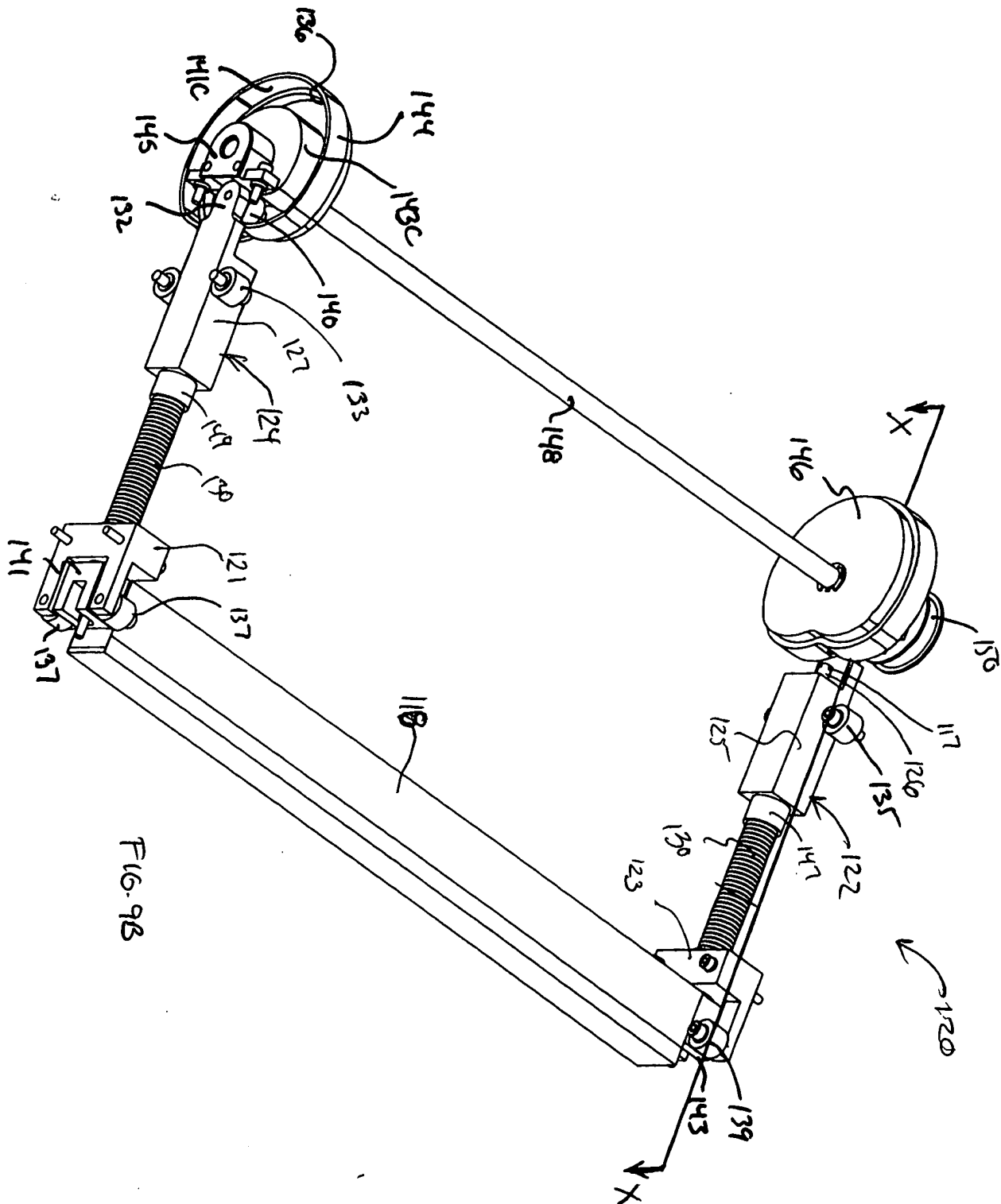
Attorney Docket No.: 034017R004

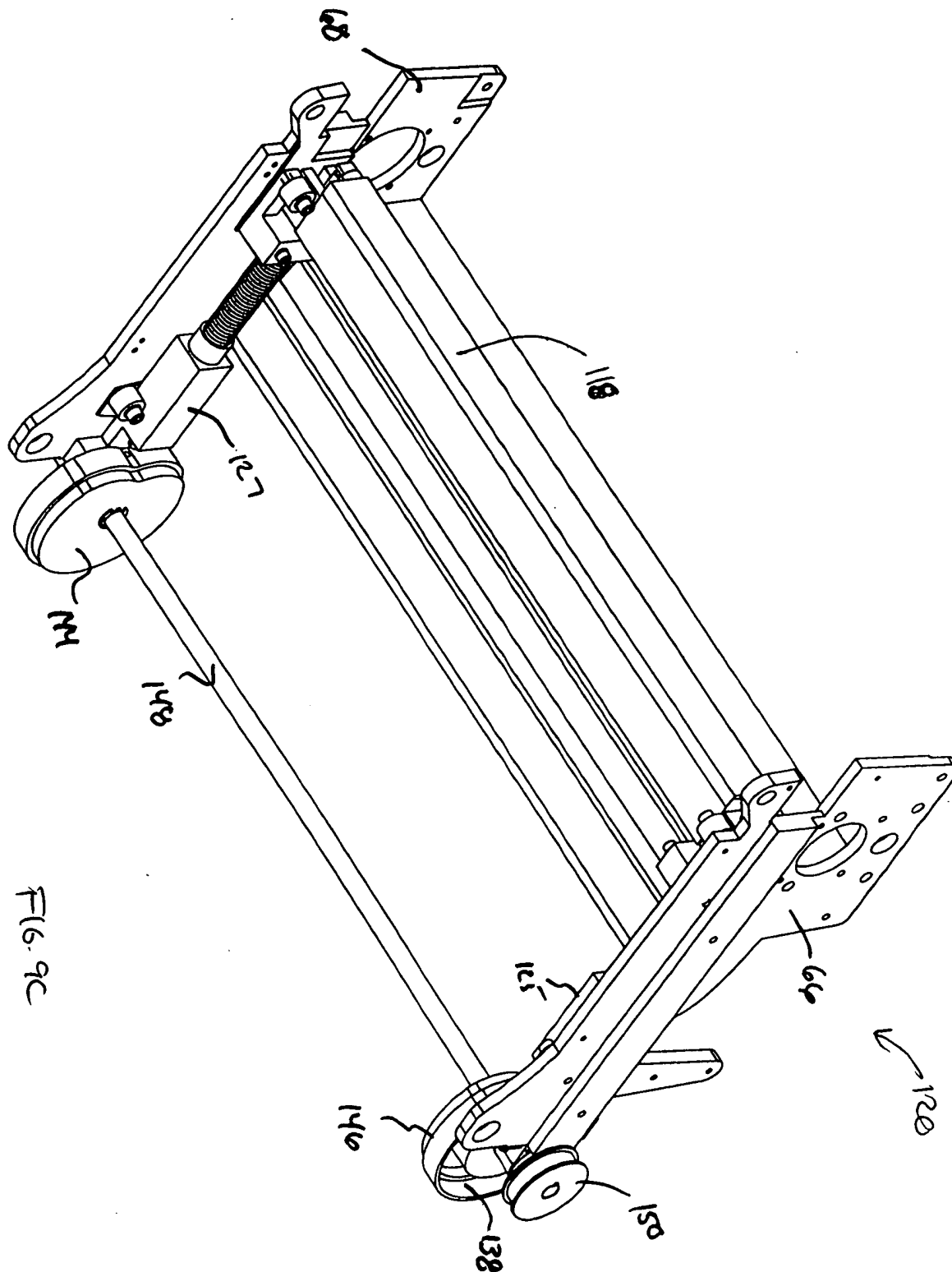
REPLACEMENT SHEET











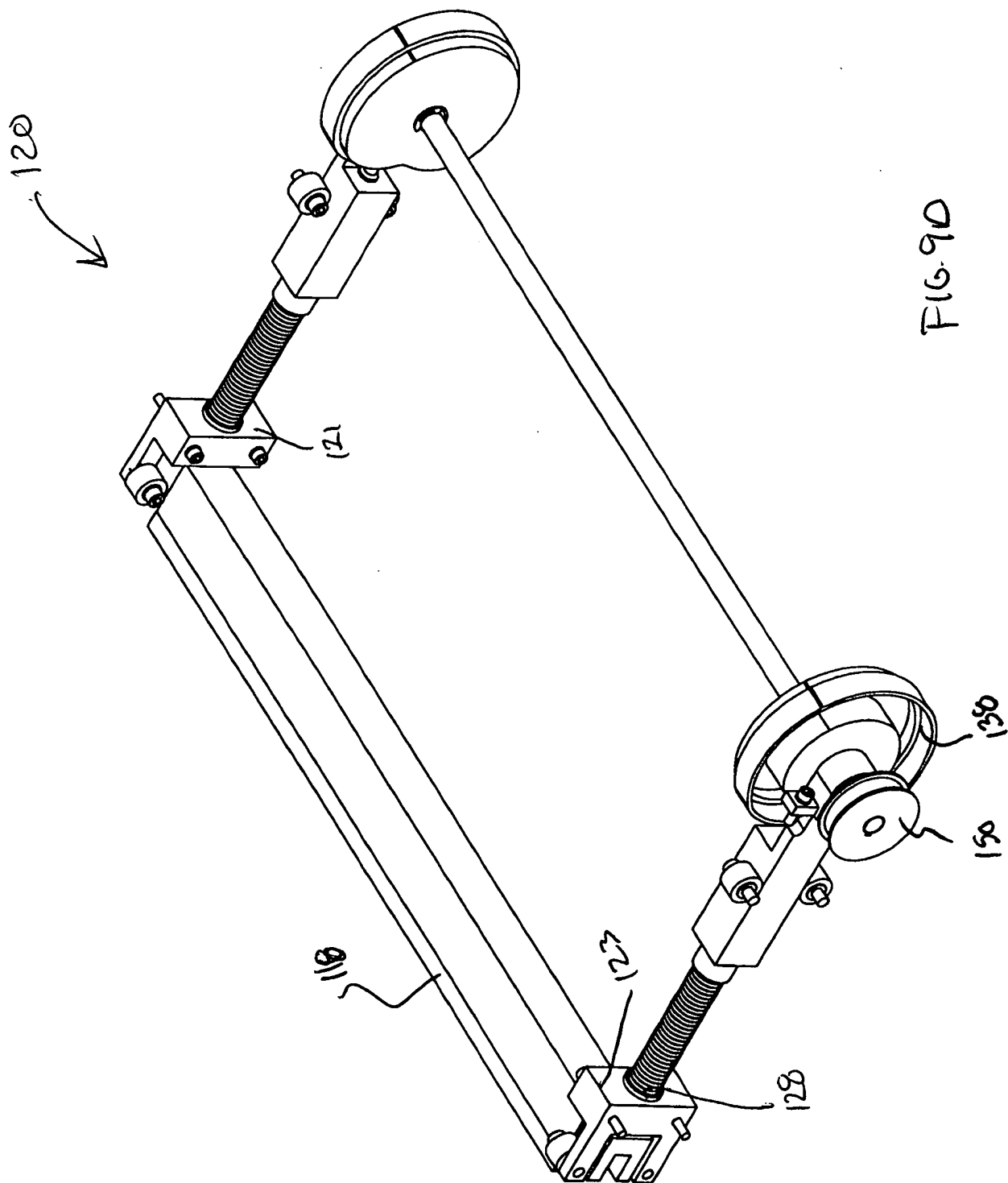
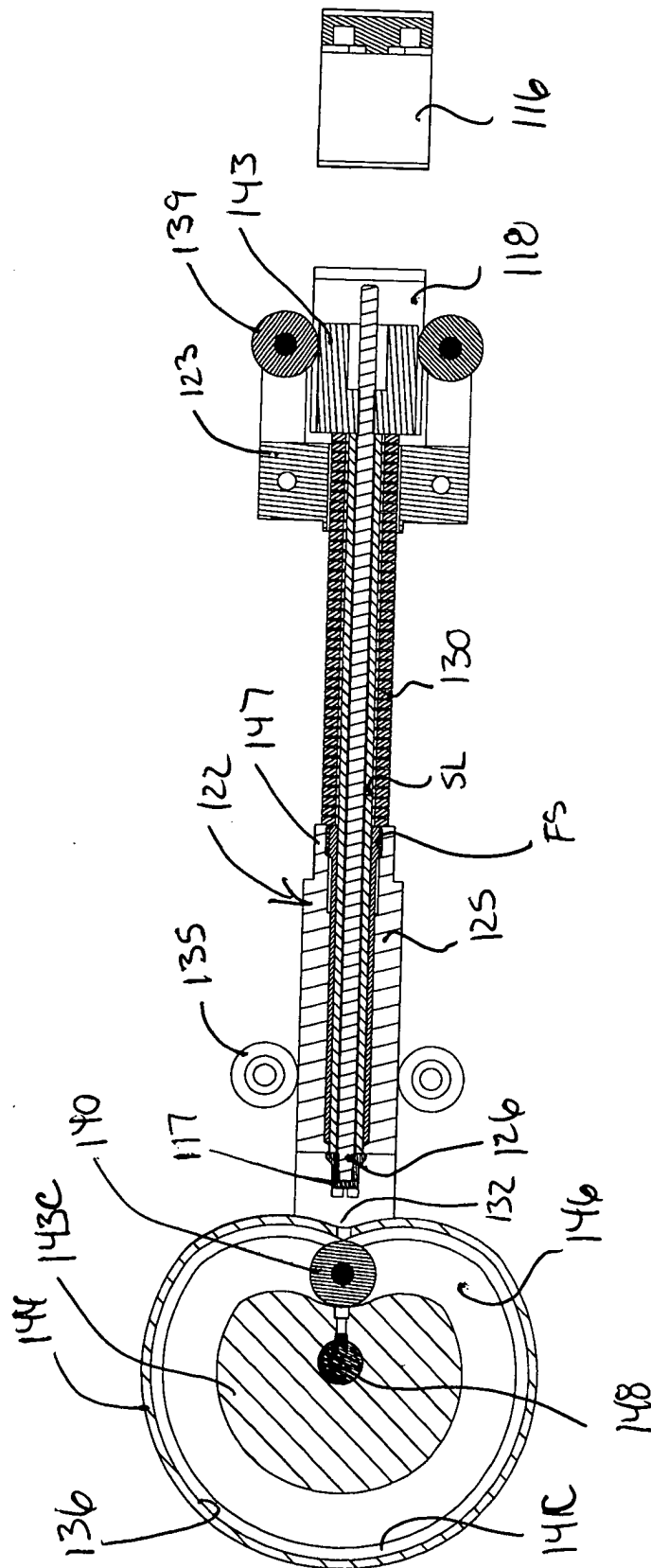


FIG. 9E



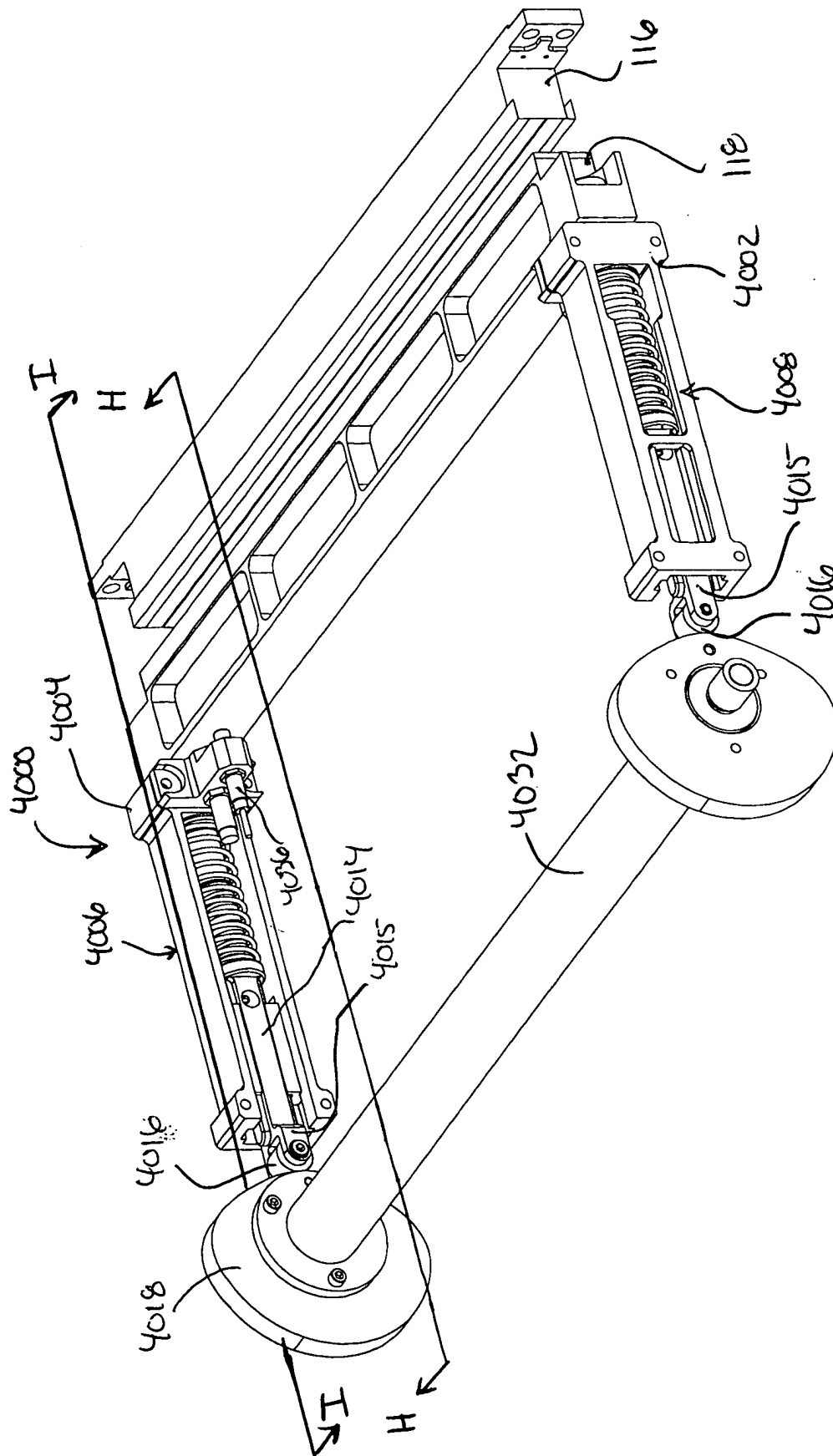


FIG. 9F

FIG. 9C

Inventor: George BERTRAM

Title: DISPENSING SYSTEM WITH IN LINE CHEMICAL PUMP SYSTEM

Attorney Docket No.: 034017R004

REPLACEMENT SHEET

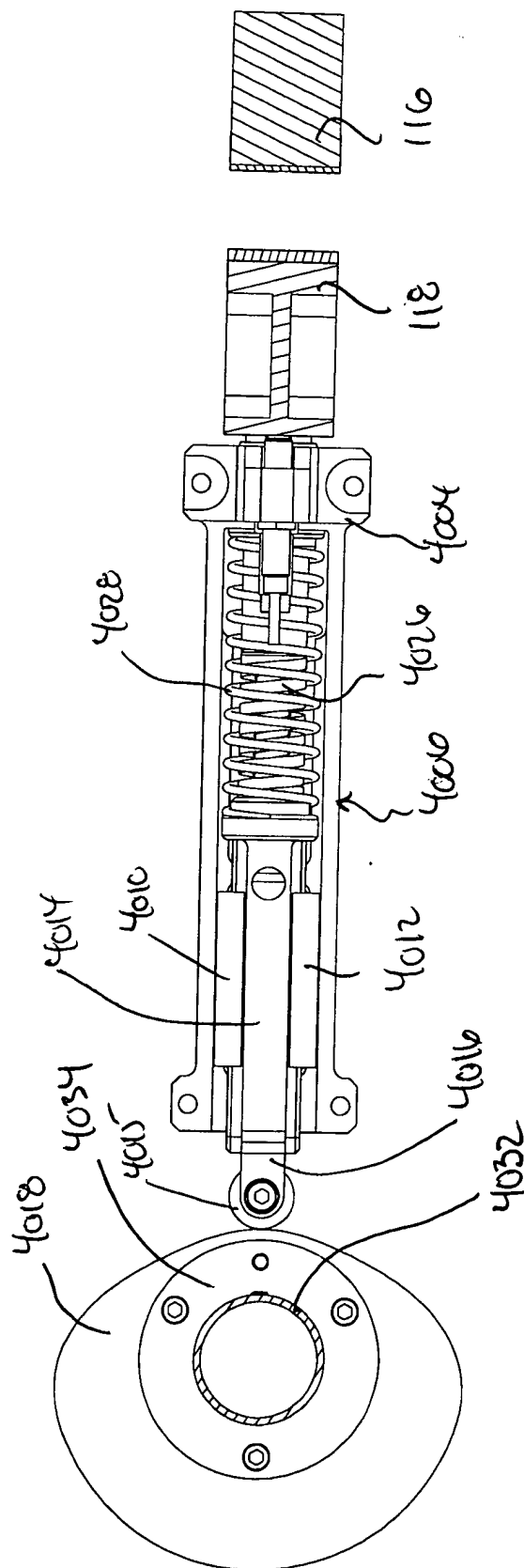


FIG. 9H

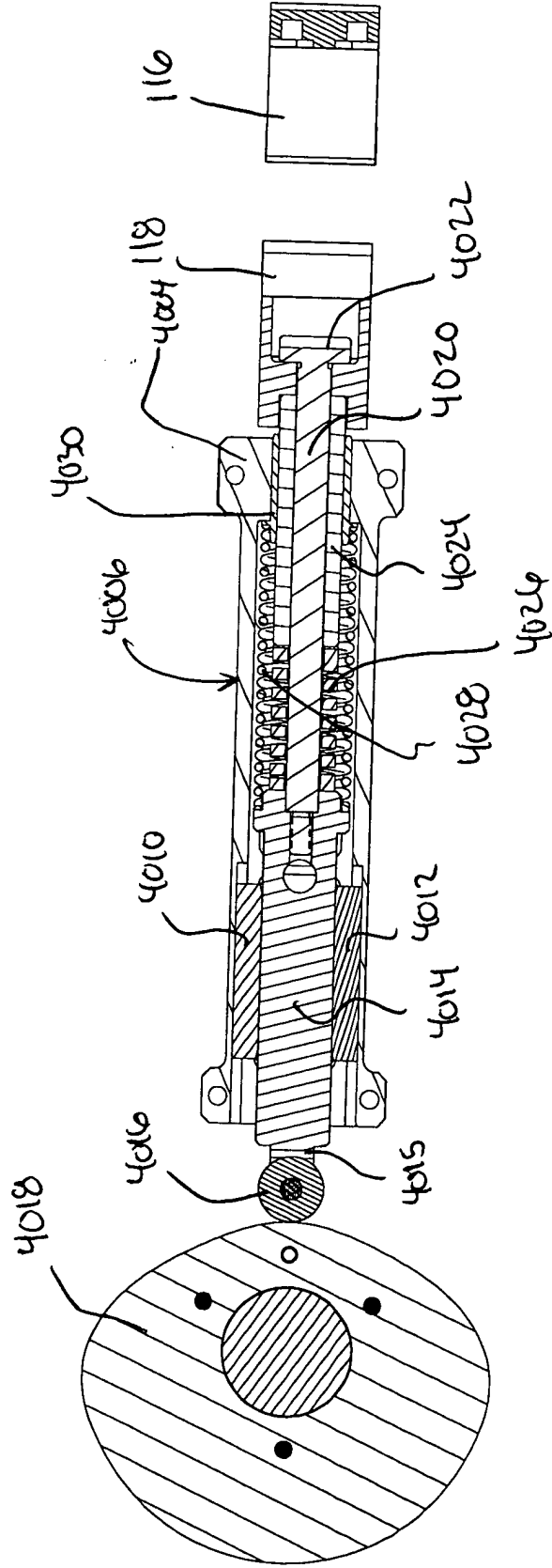


FIG. 9I

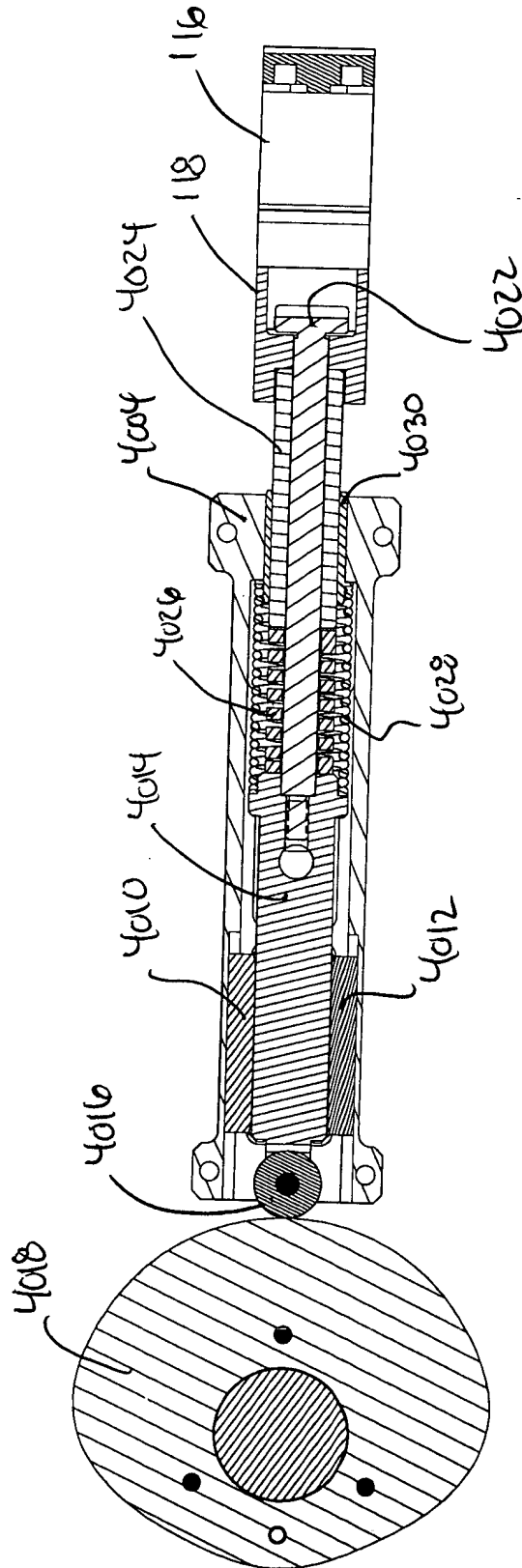
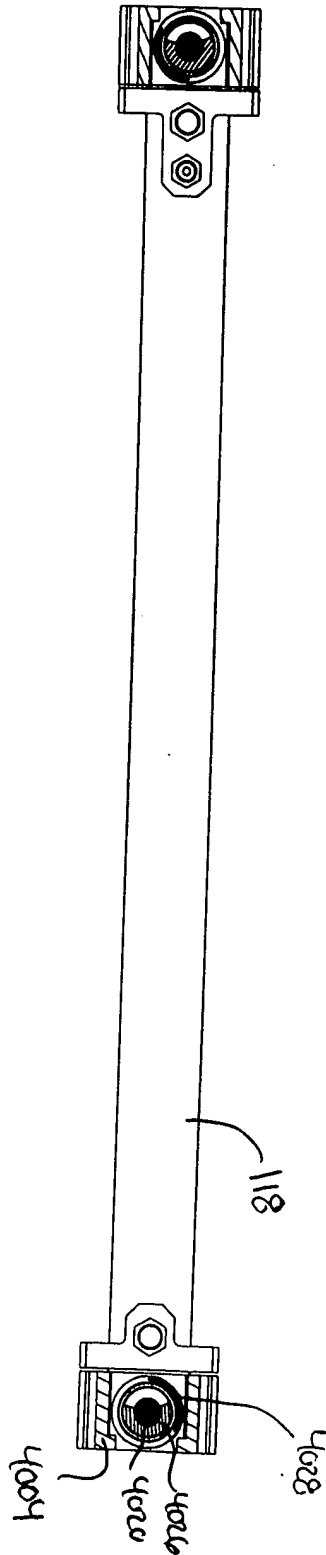
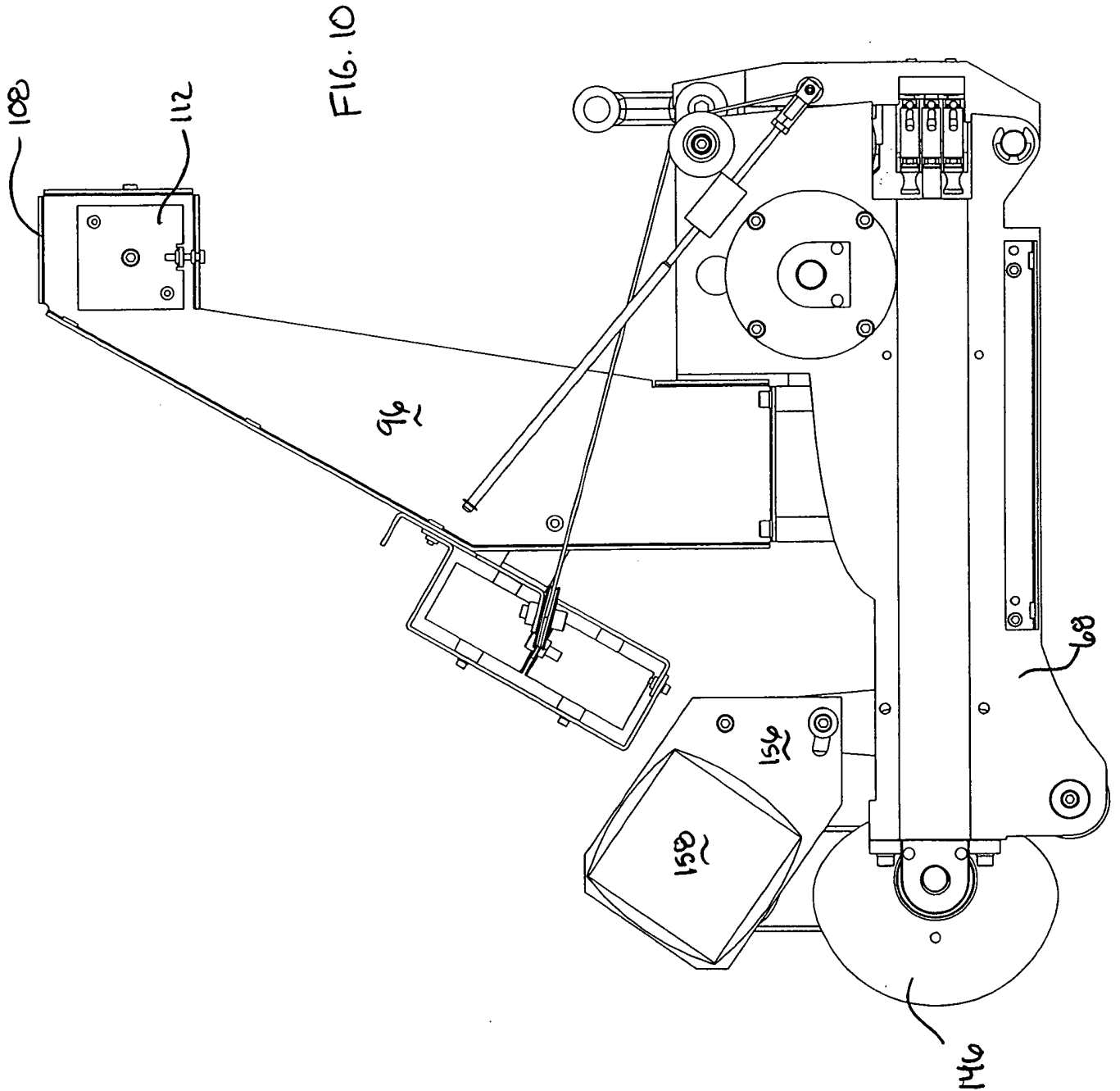


FIG. 9J

FIG. 9K





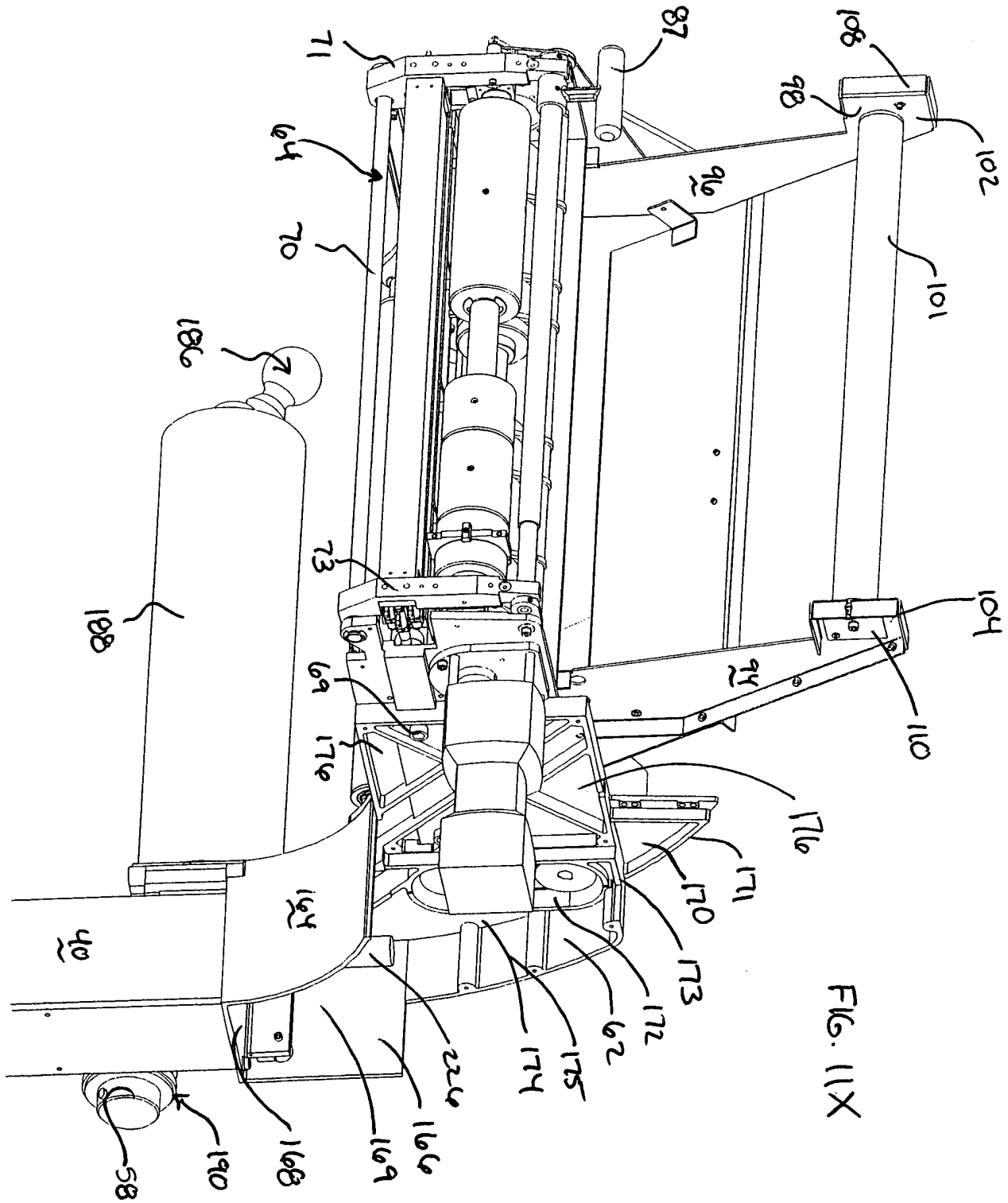
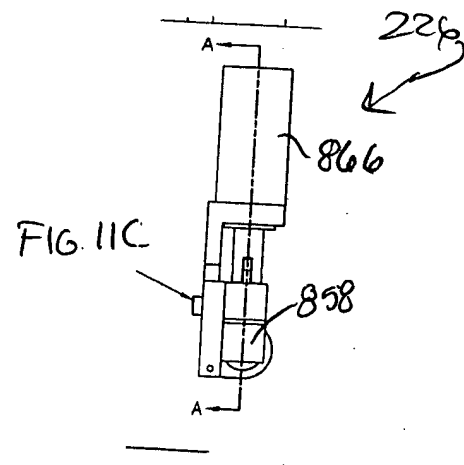
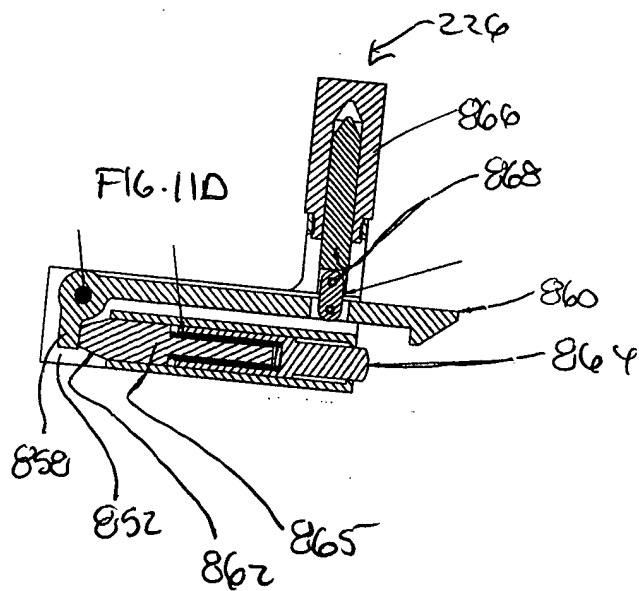
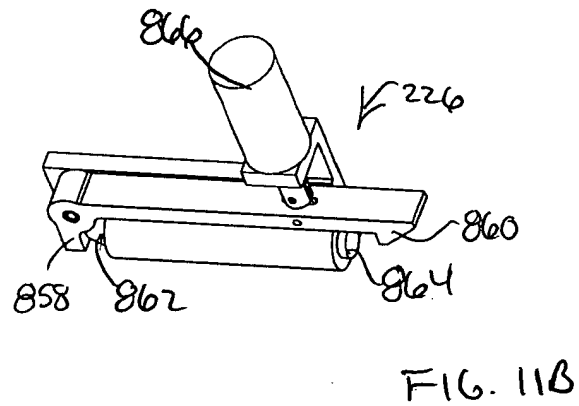
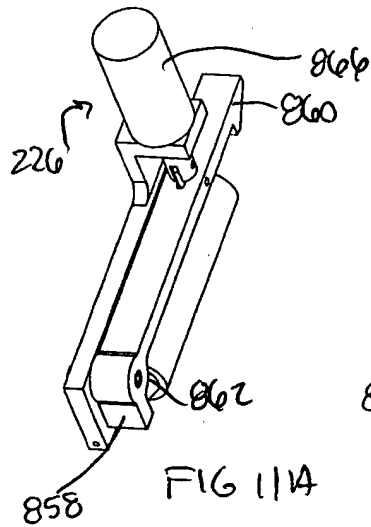
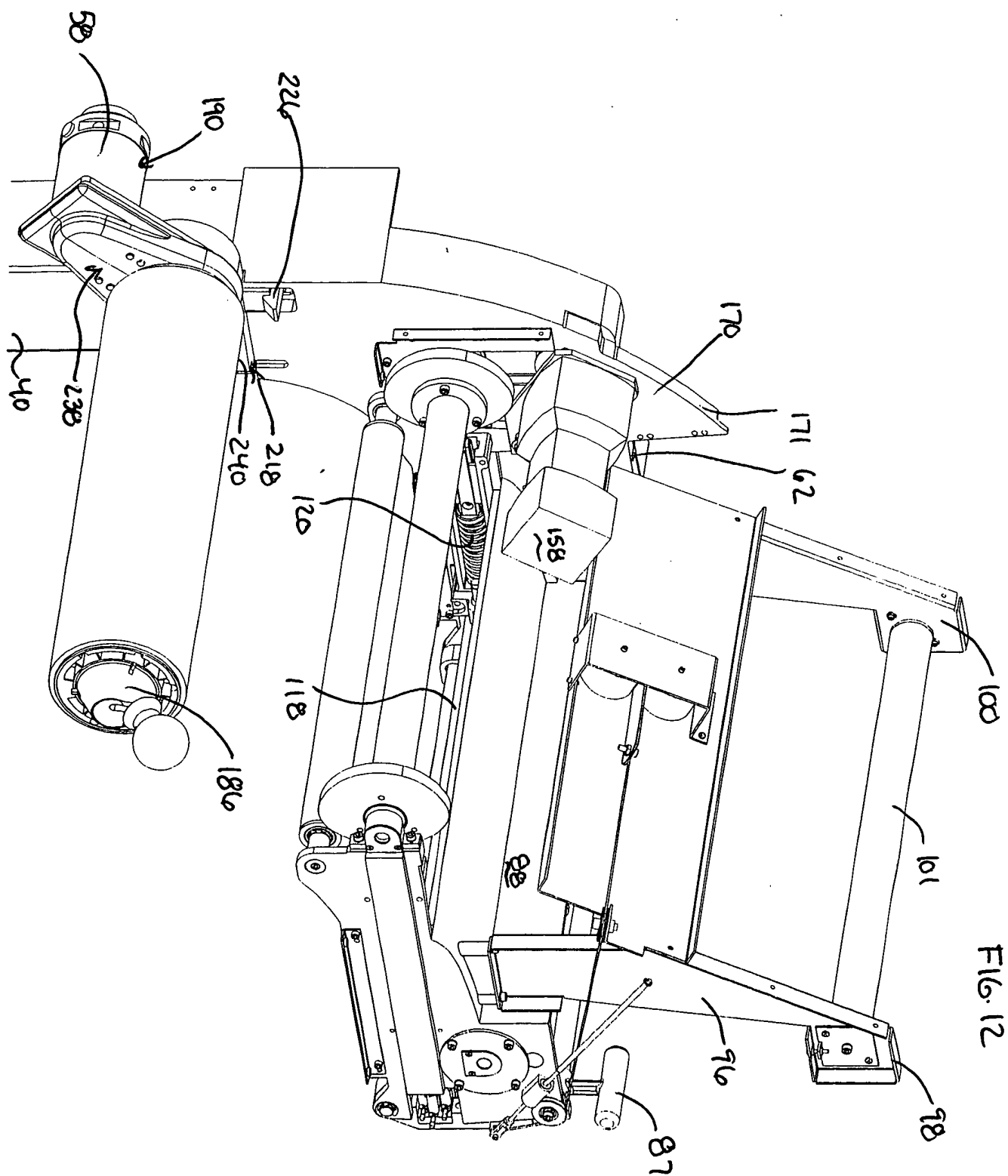
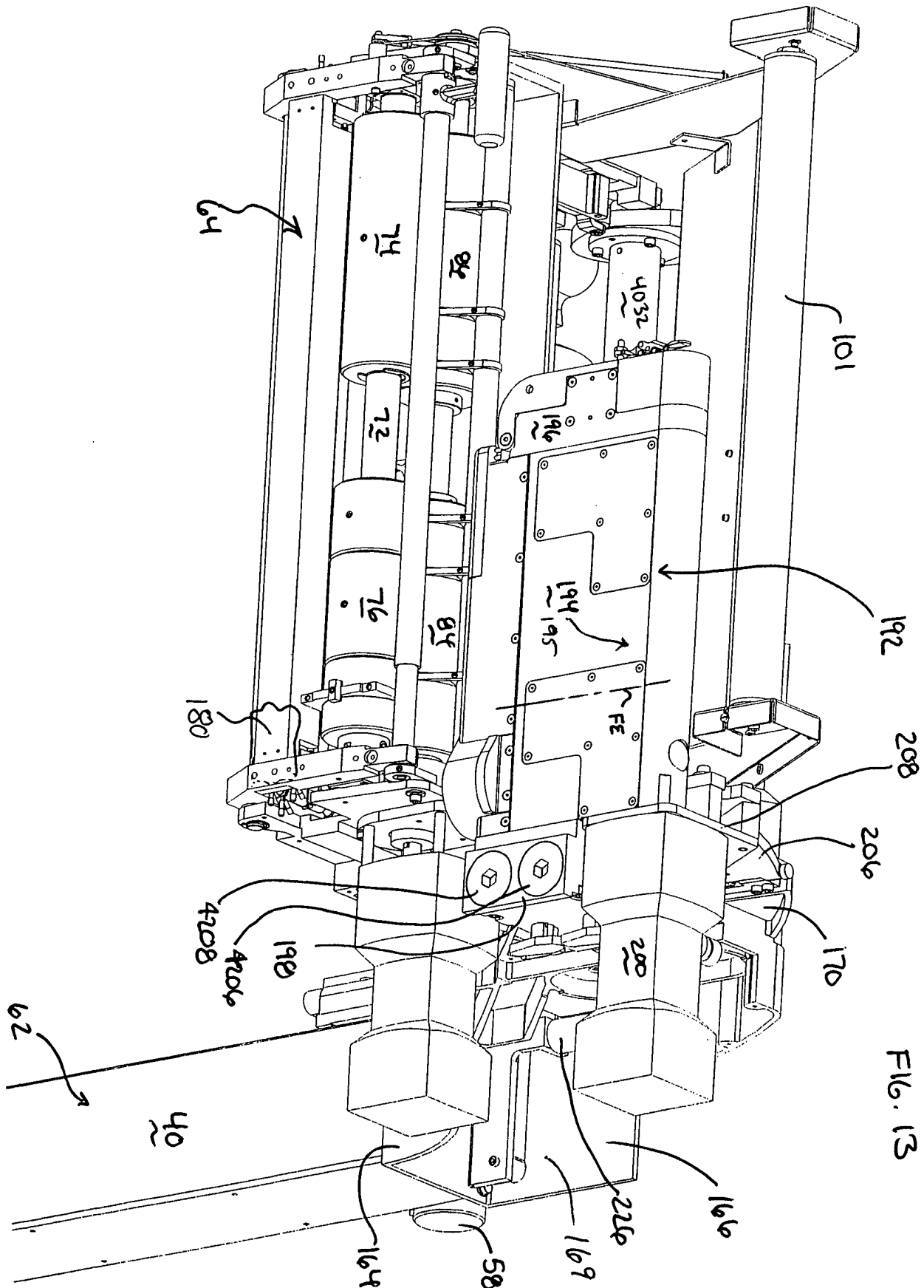
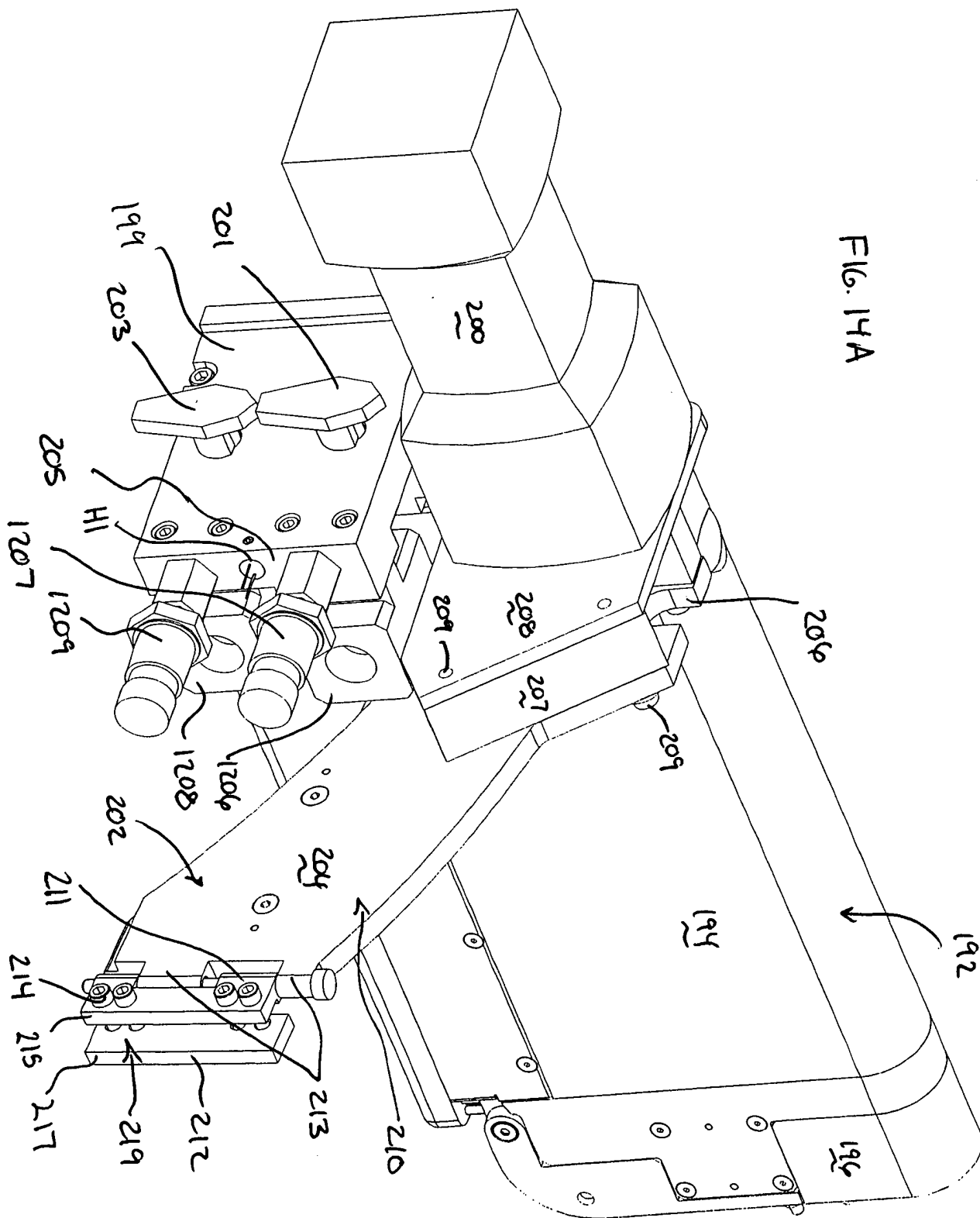


FIG. 11X









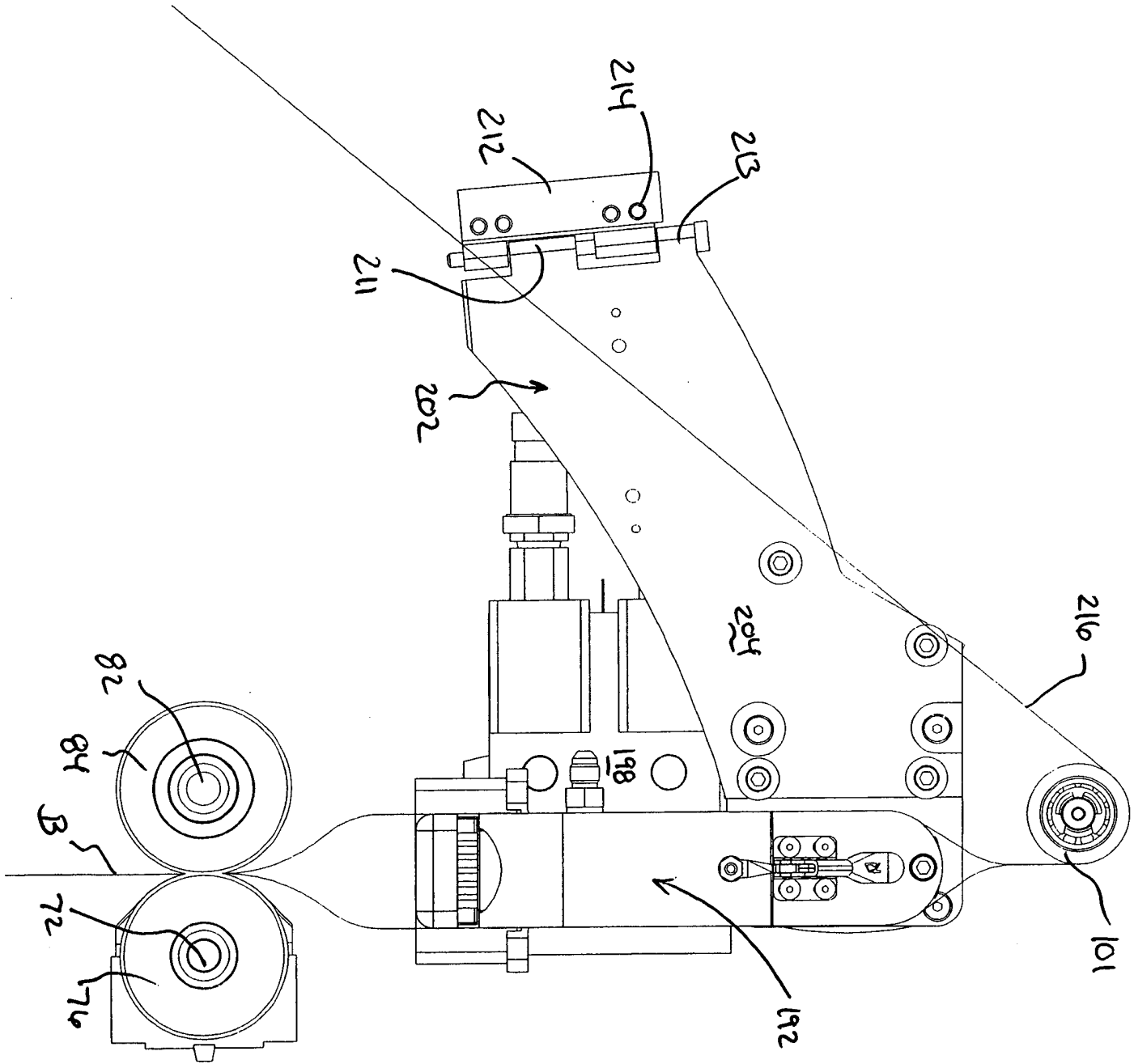


FIG. 14B

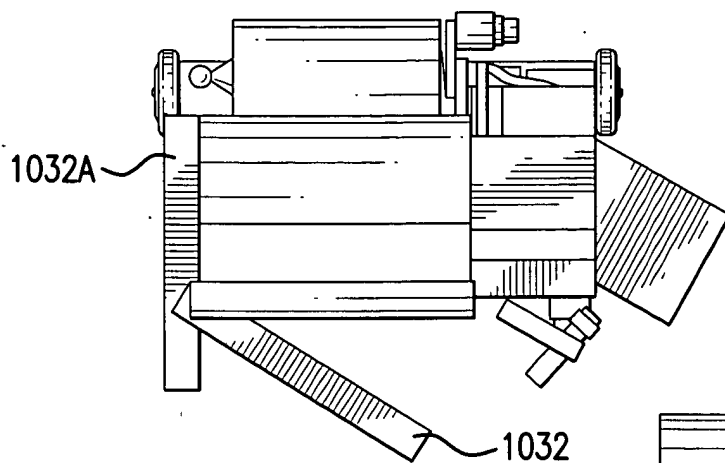


FIG. 15A

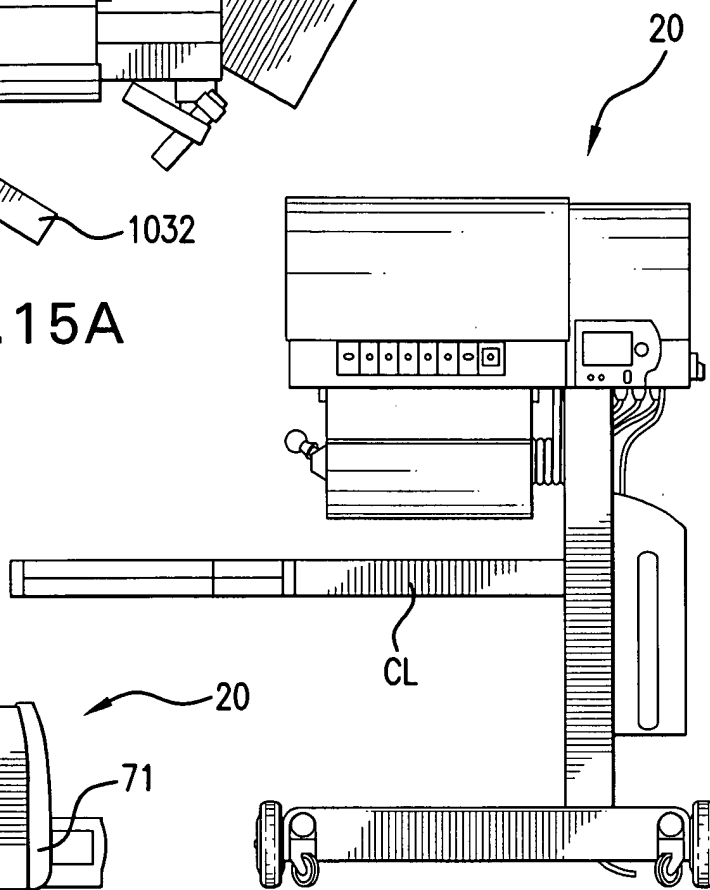


FIG. 15B

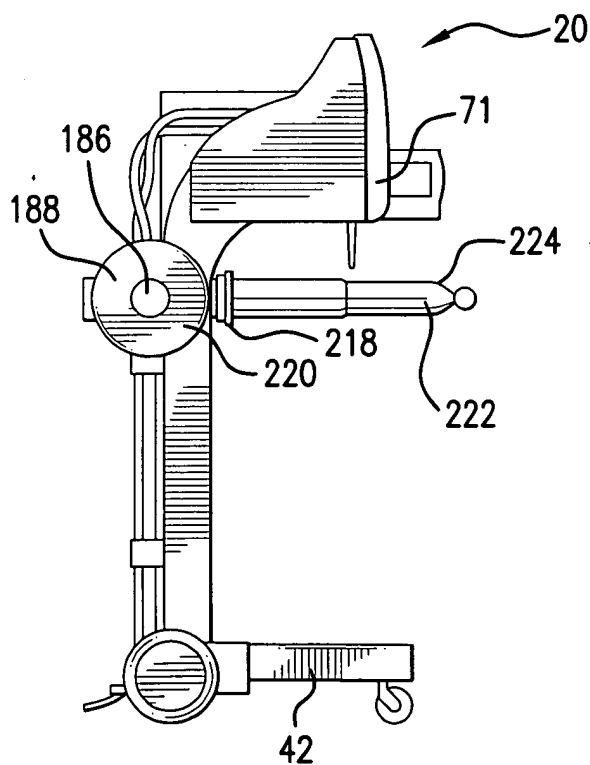
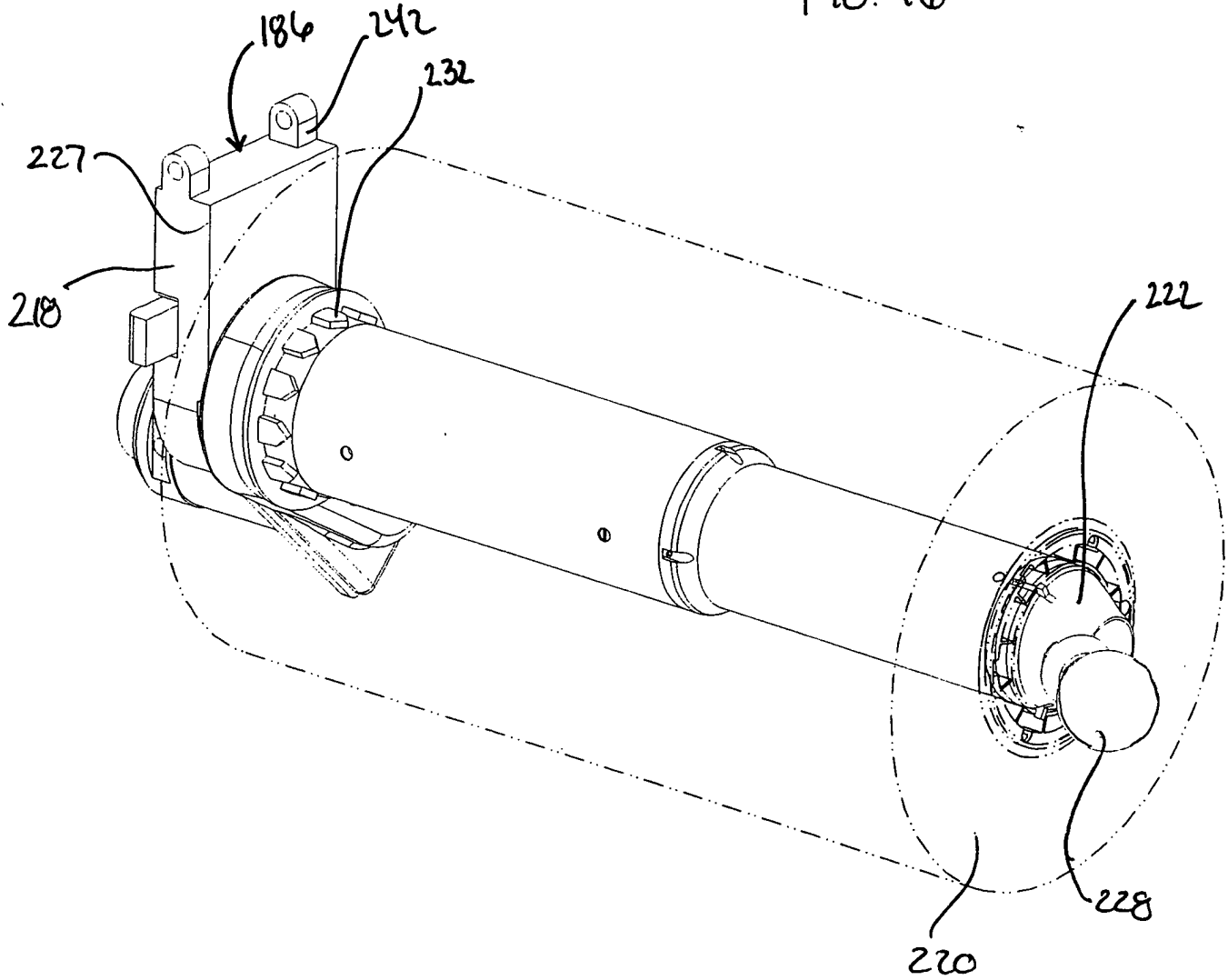
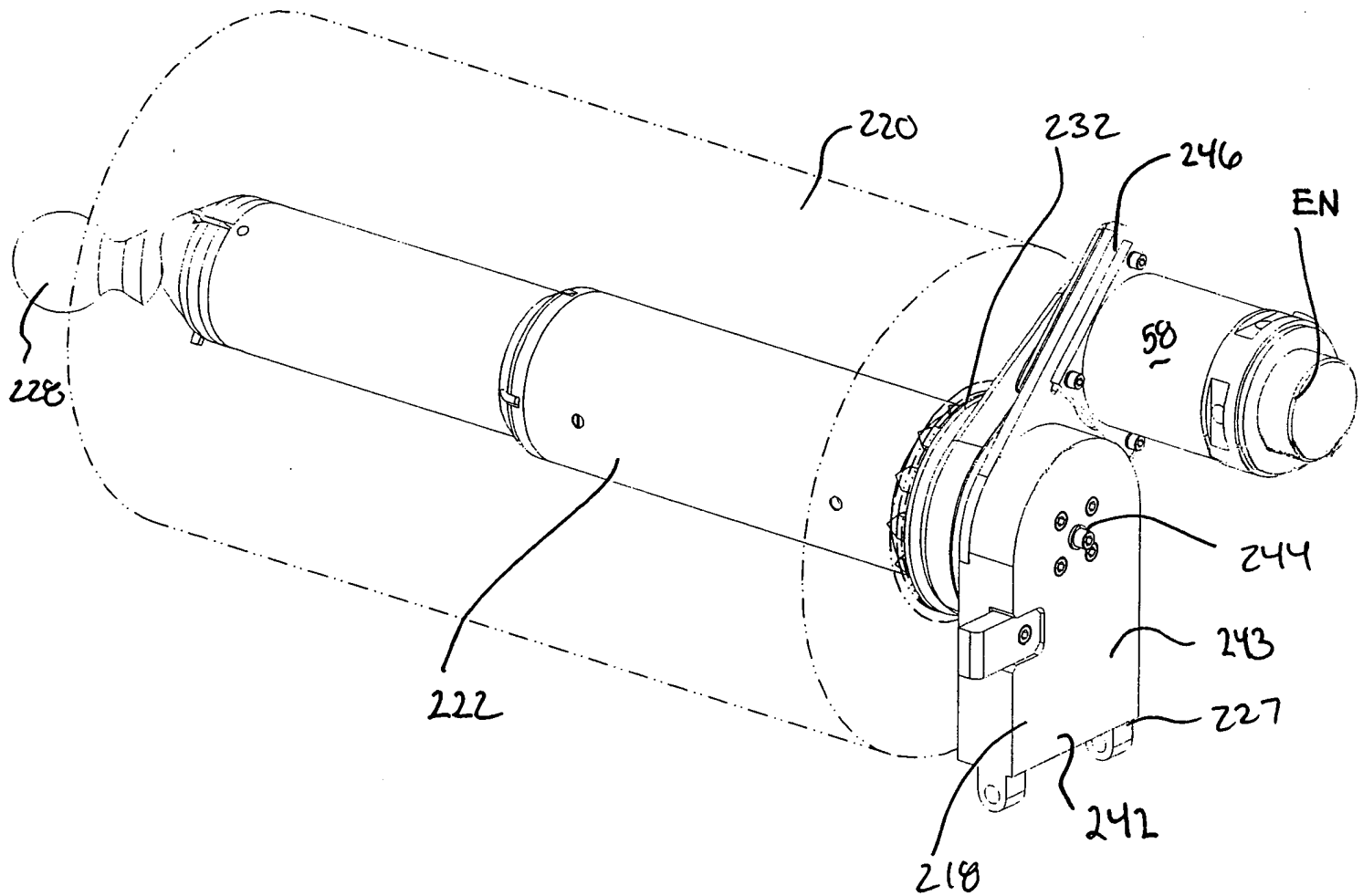


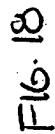
FIG. 15X

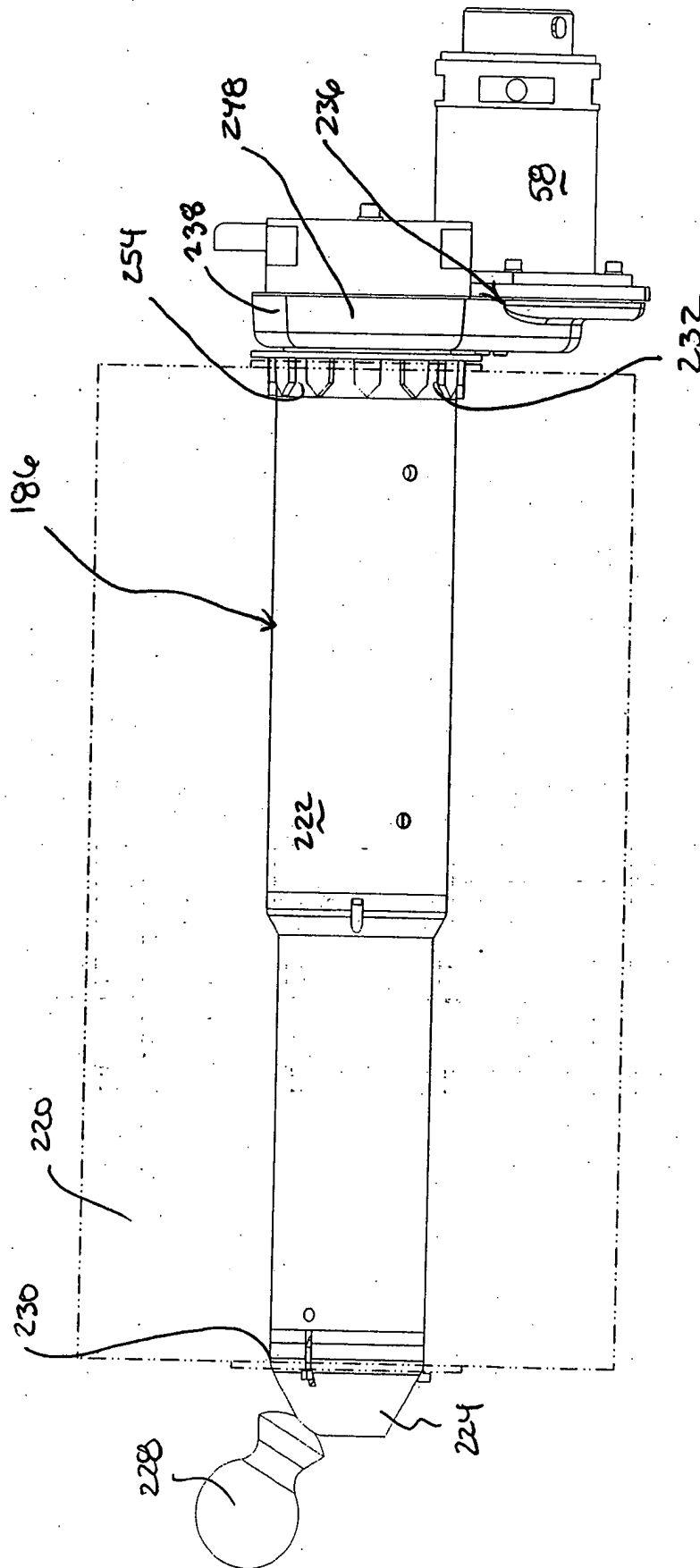
FIG. 16

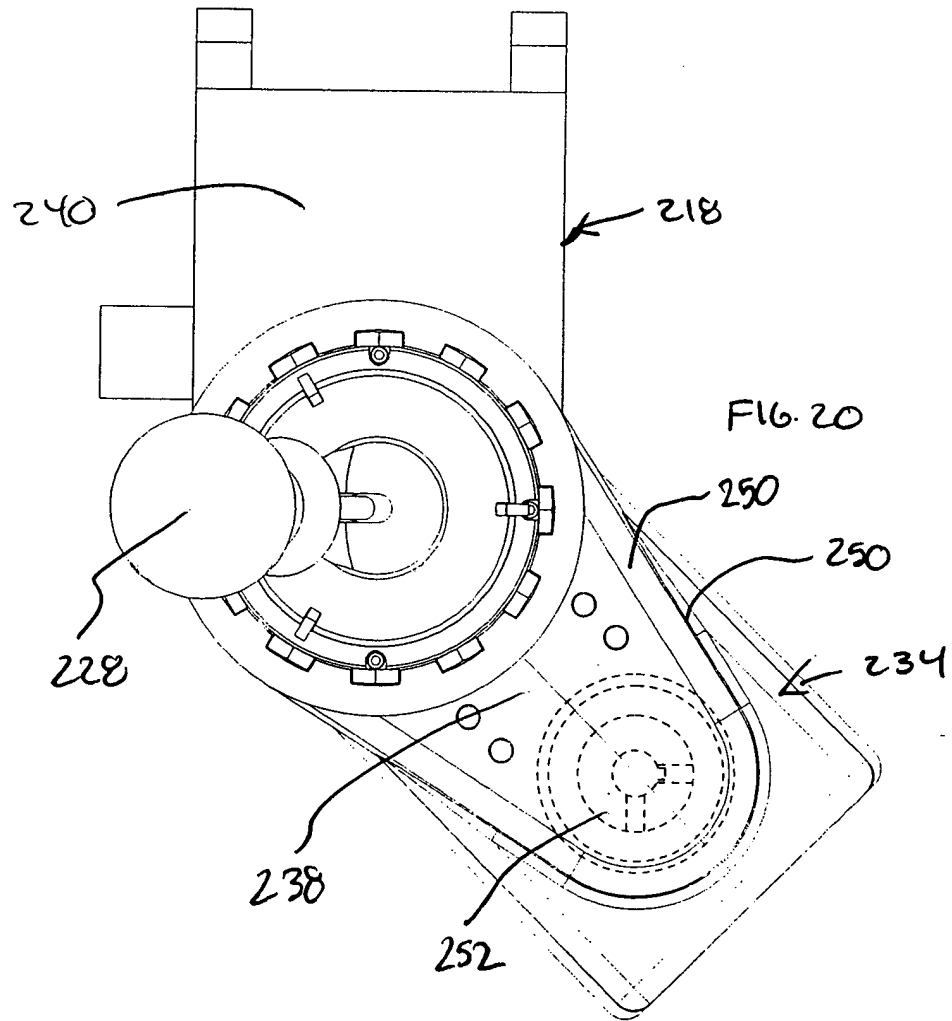


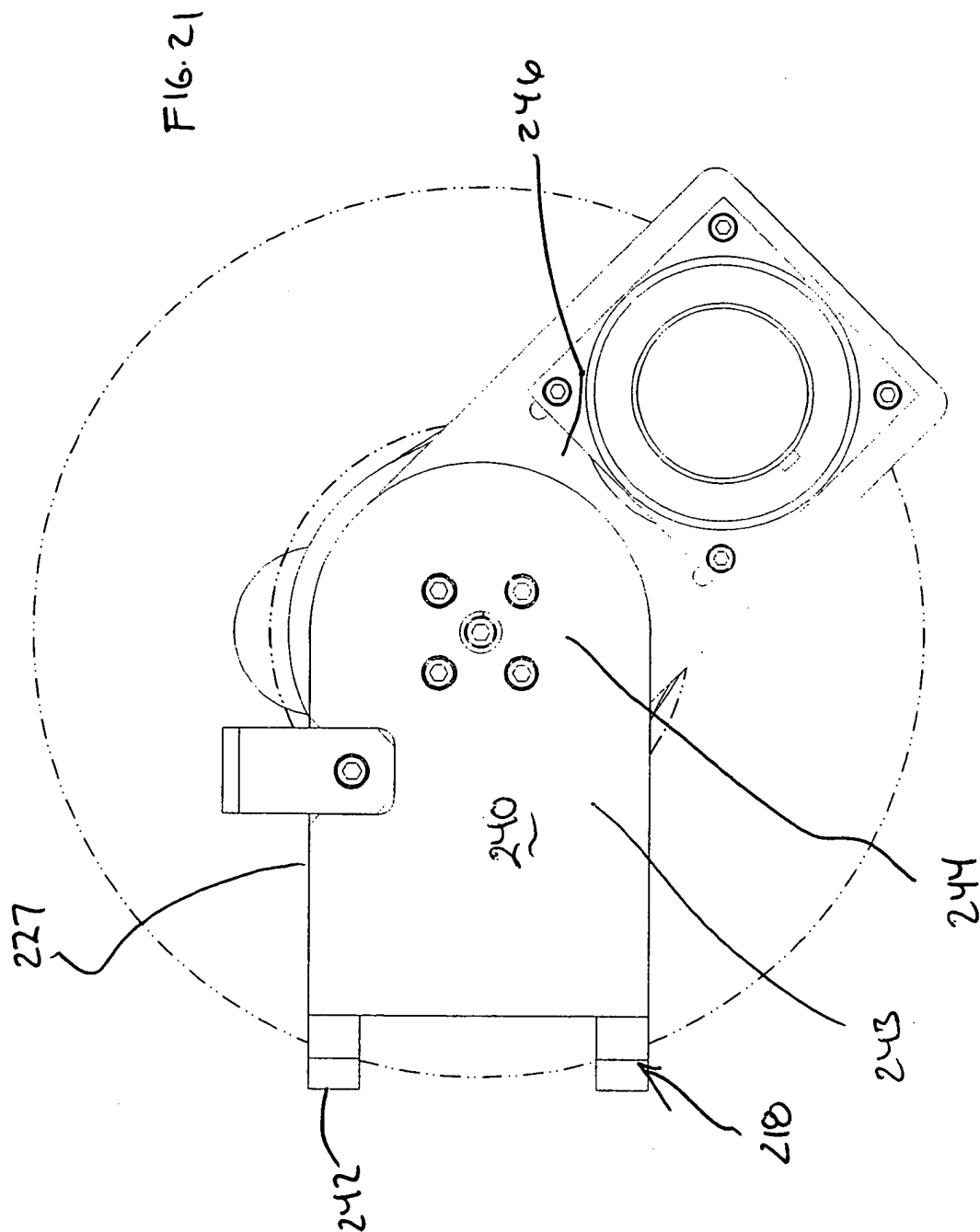
F16.17











Inventor: George BERTRAM

Title: DISPENSING SYSTEM WITH IN LINE CHEMICAL PUMP SYSTEM

Attorney Docket No.: 034017R004

REPLACEMENT SHEET

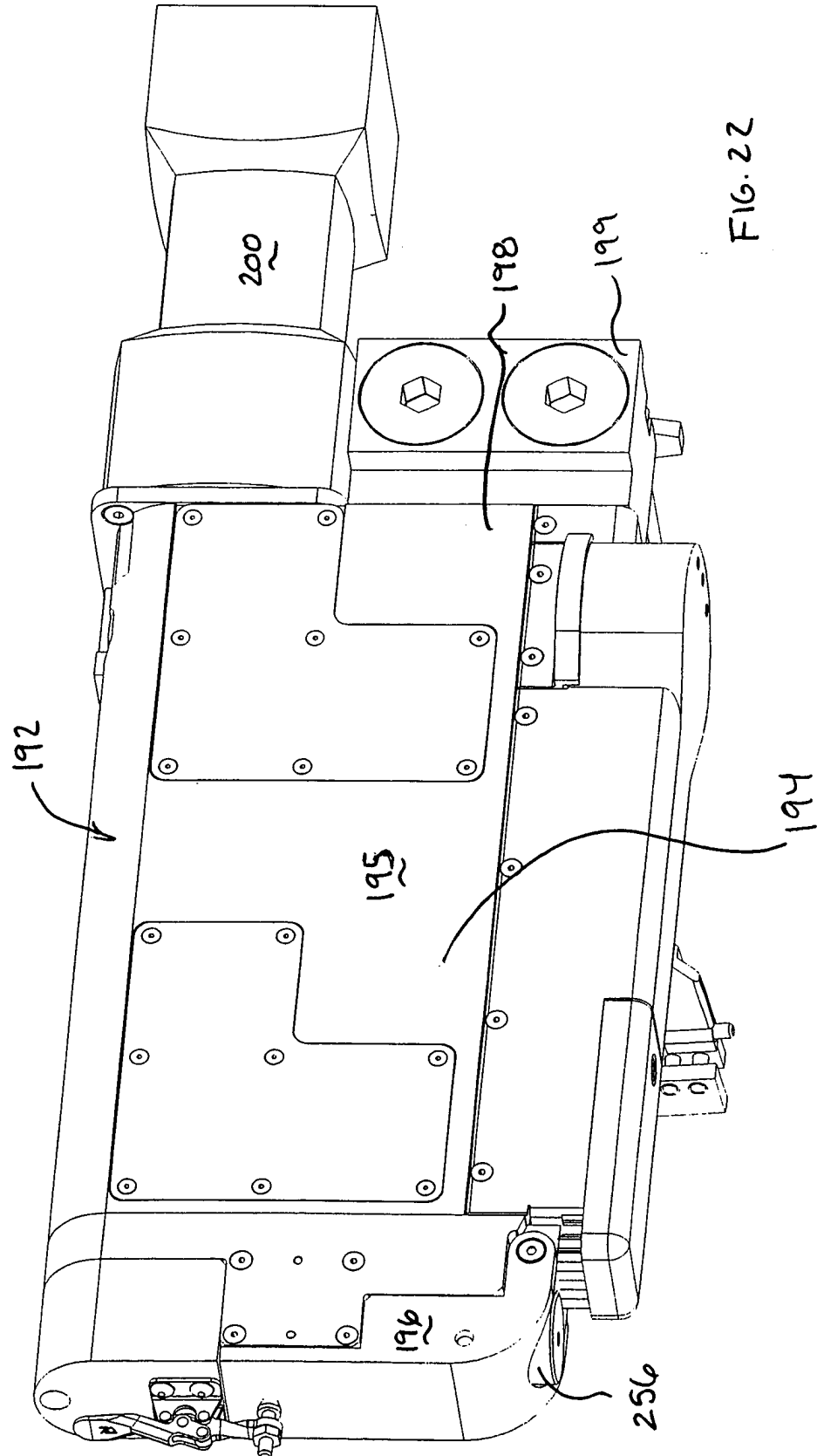


FIG. 22



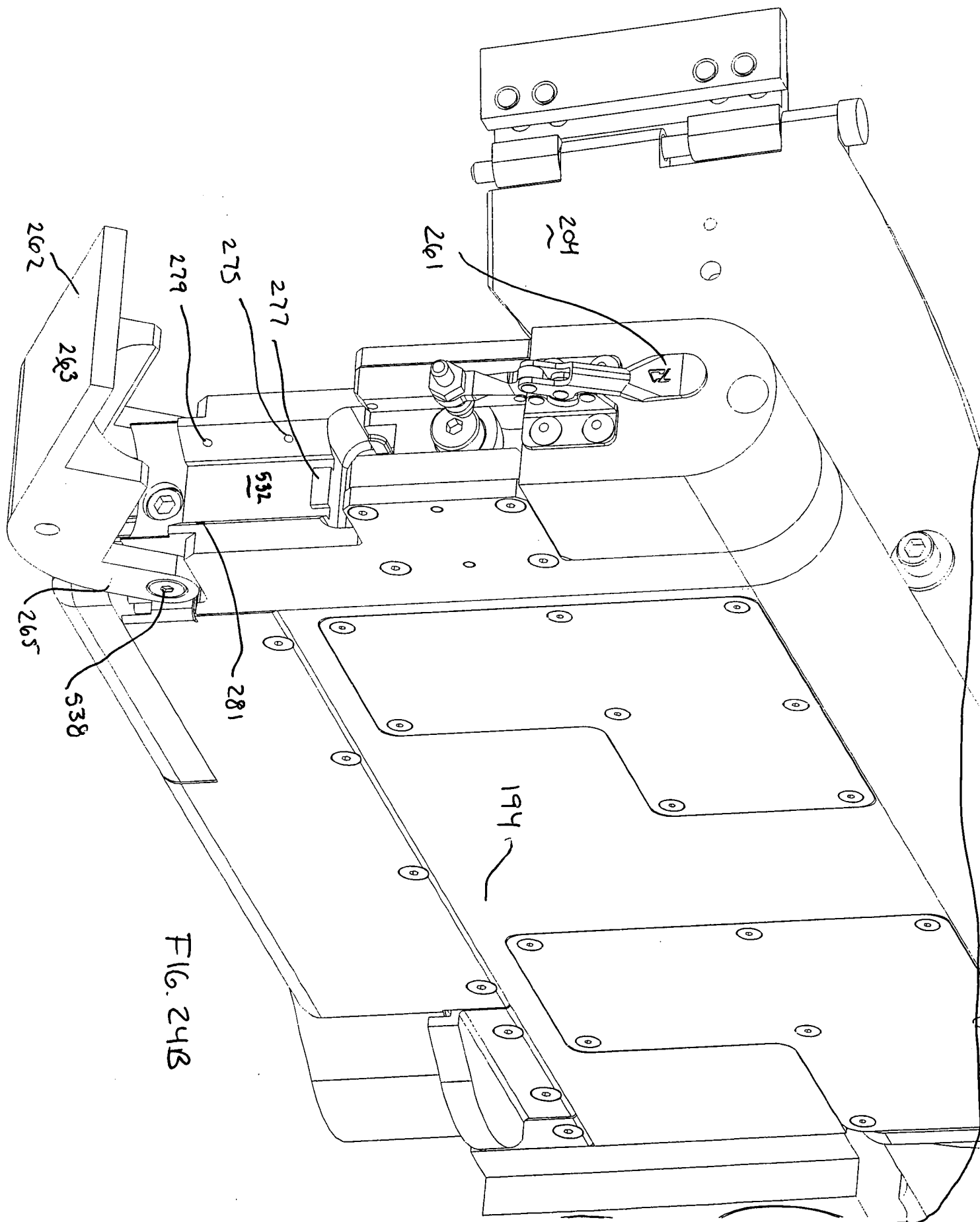
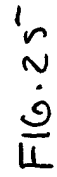
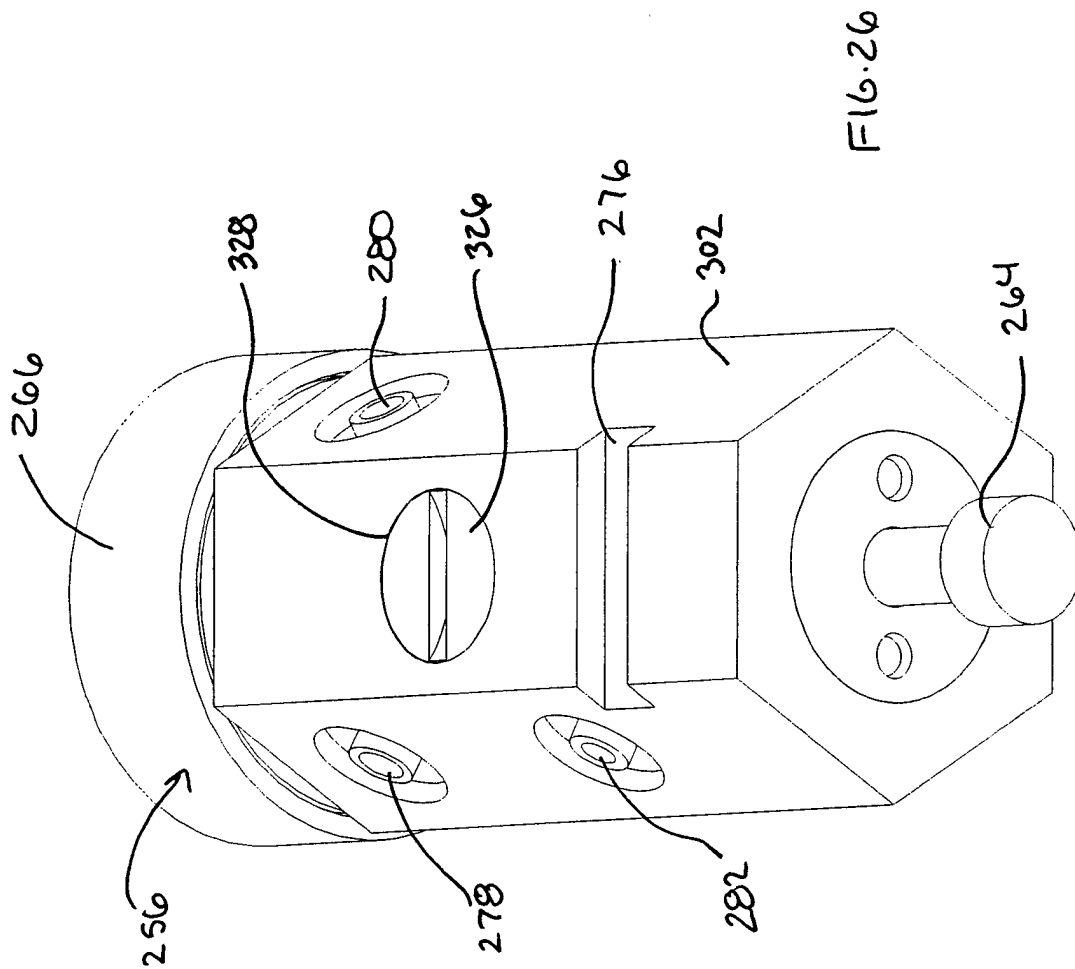
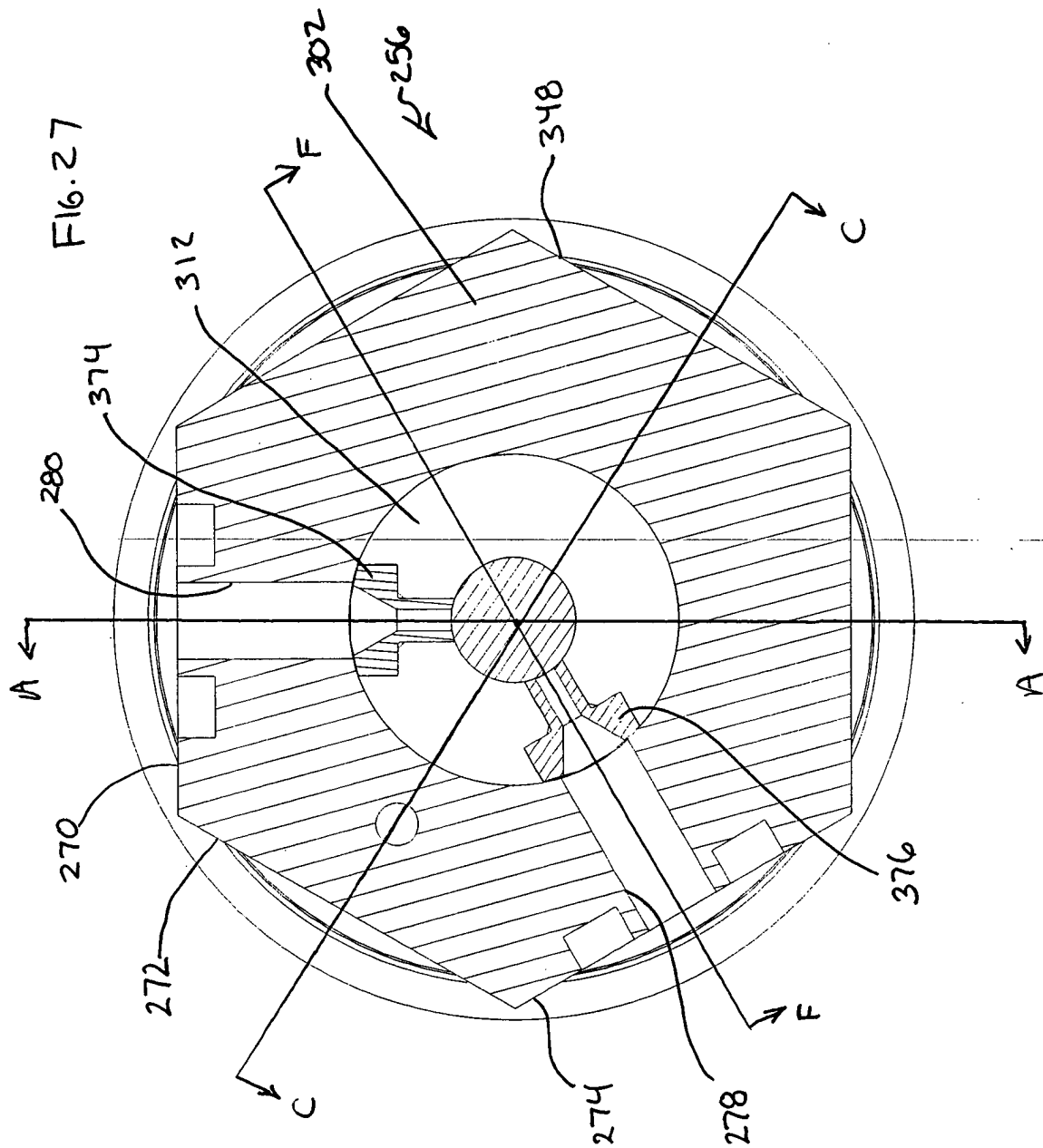


FIG. 24B





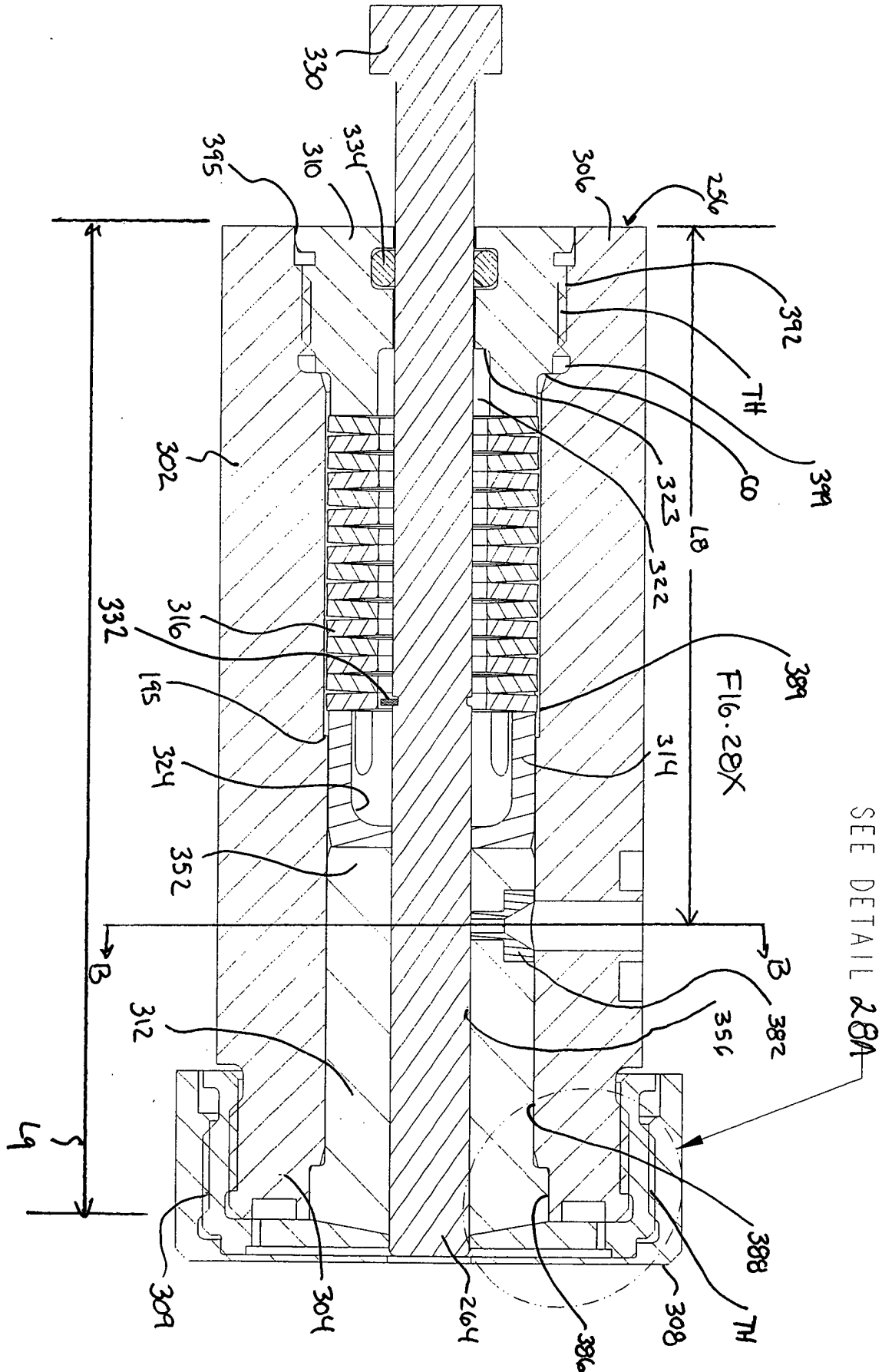


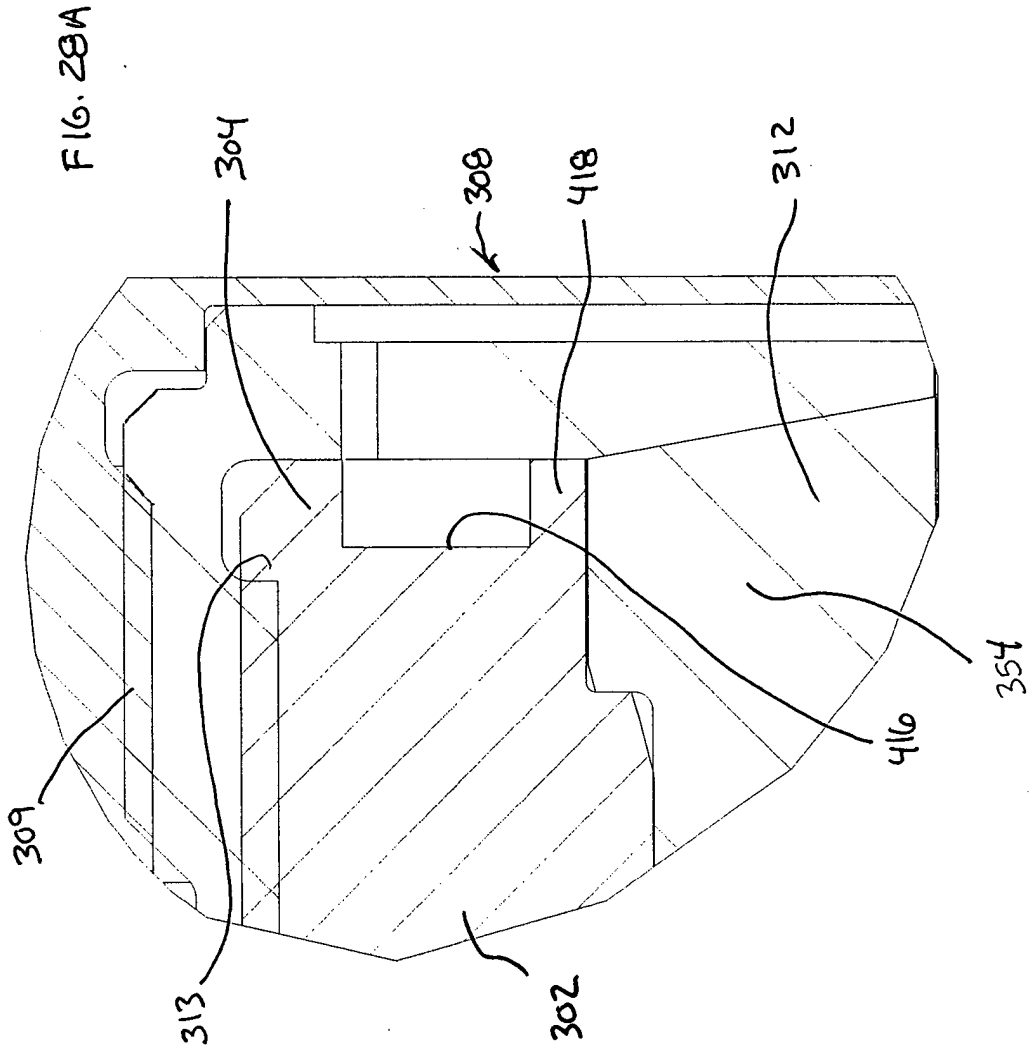
Inventor: George BERTRAM

Title: DISPENSING SYSTEM WITH IN LINE CHEMICAL PUMP SYSTEM

Attorney Docket No.: 034017R004

REPLACEMENT SHEET





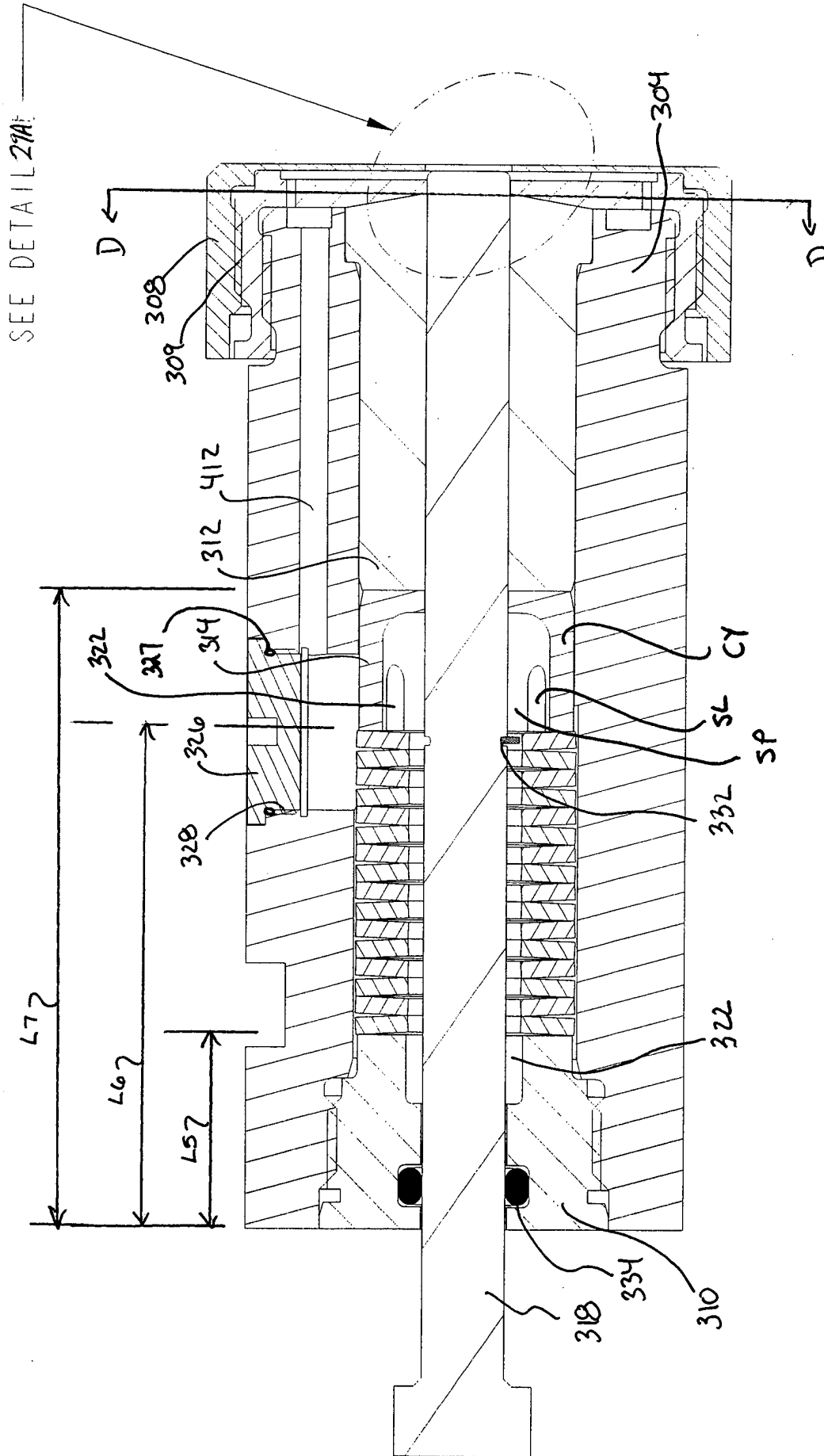


FIG. 29X

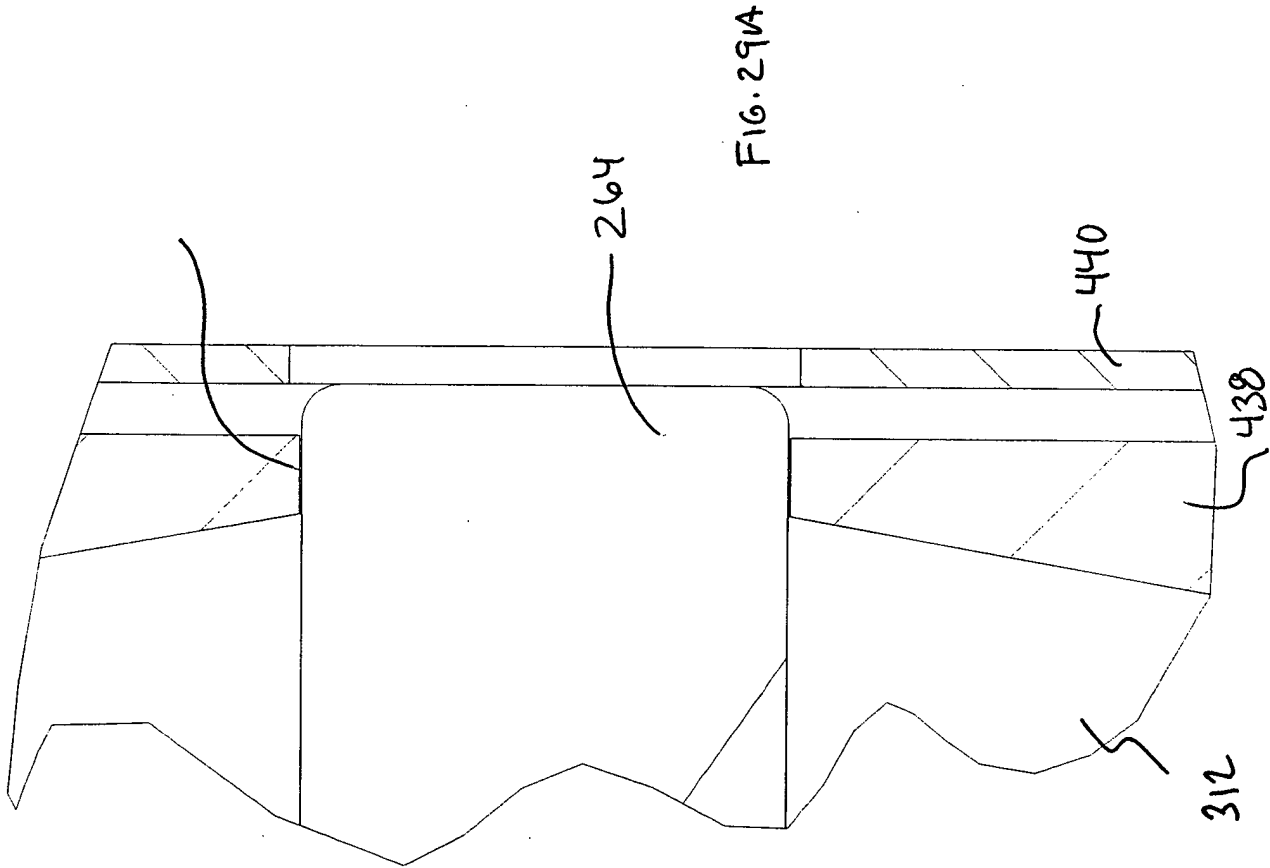
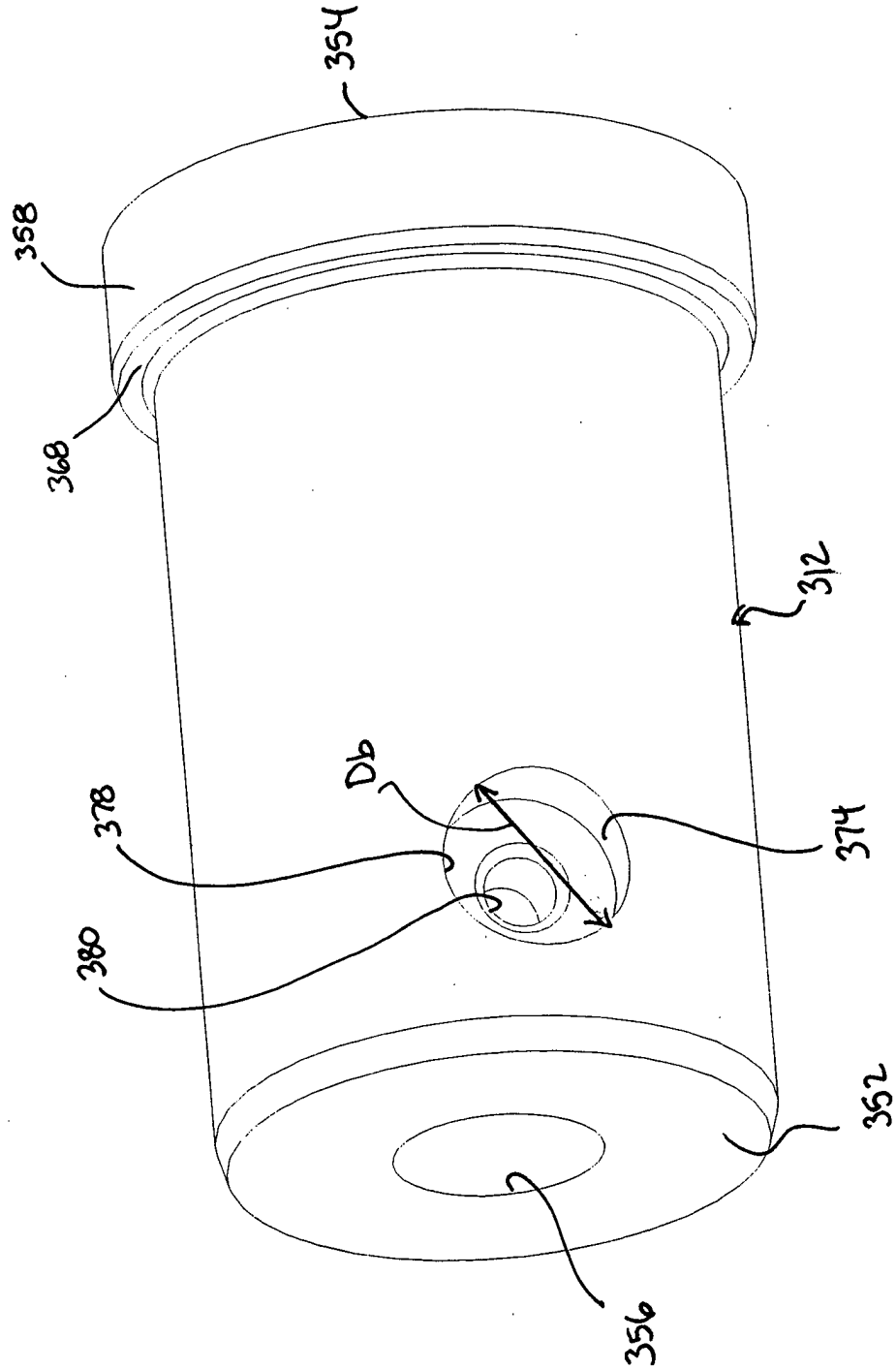
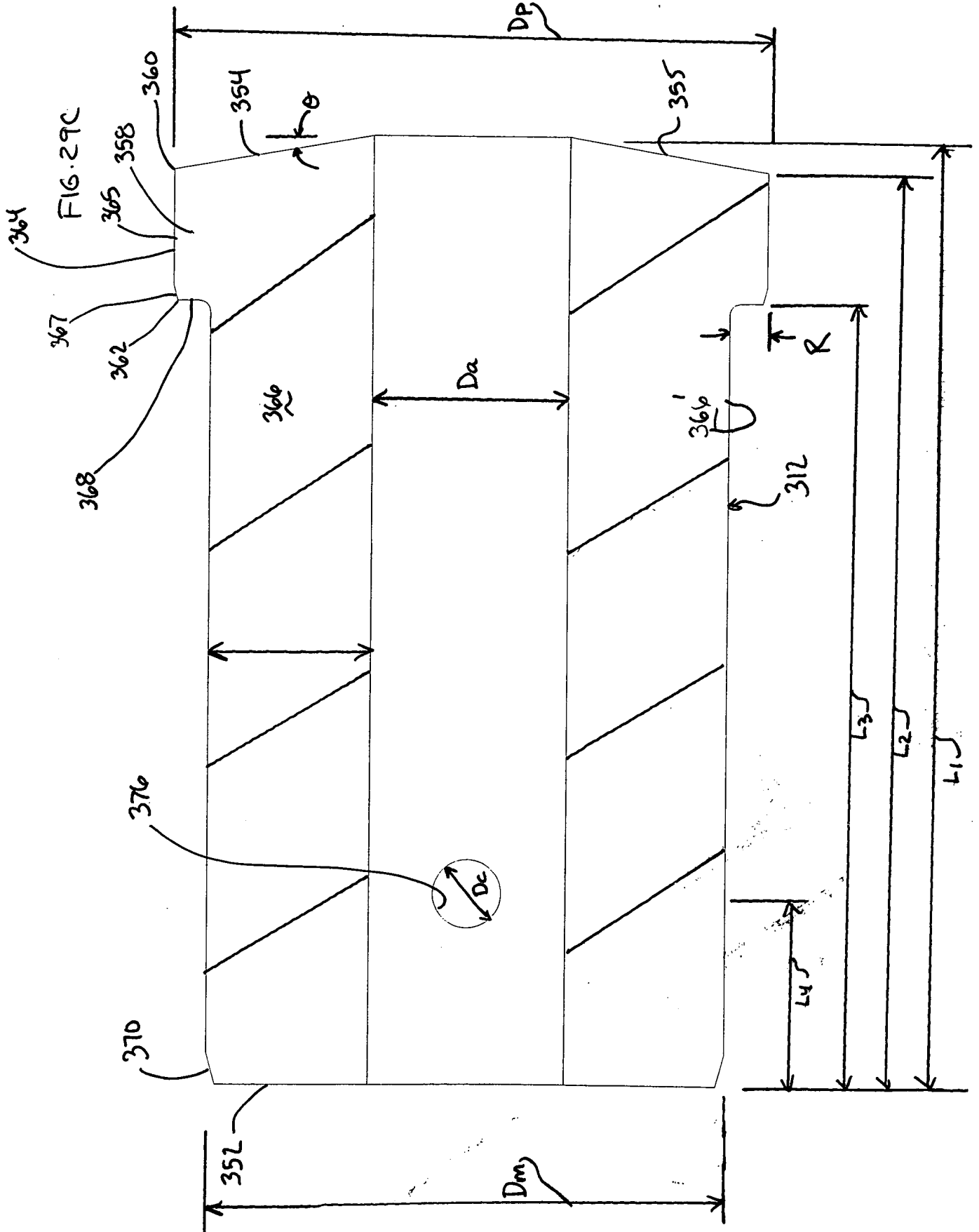
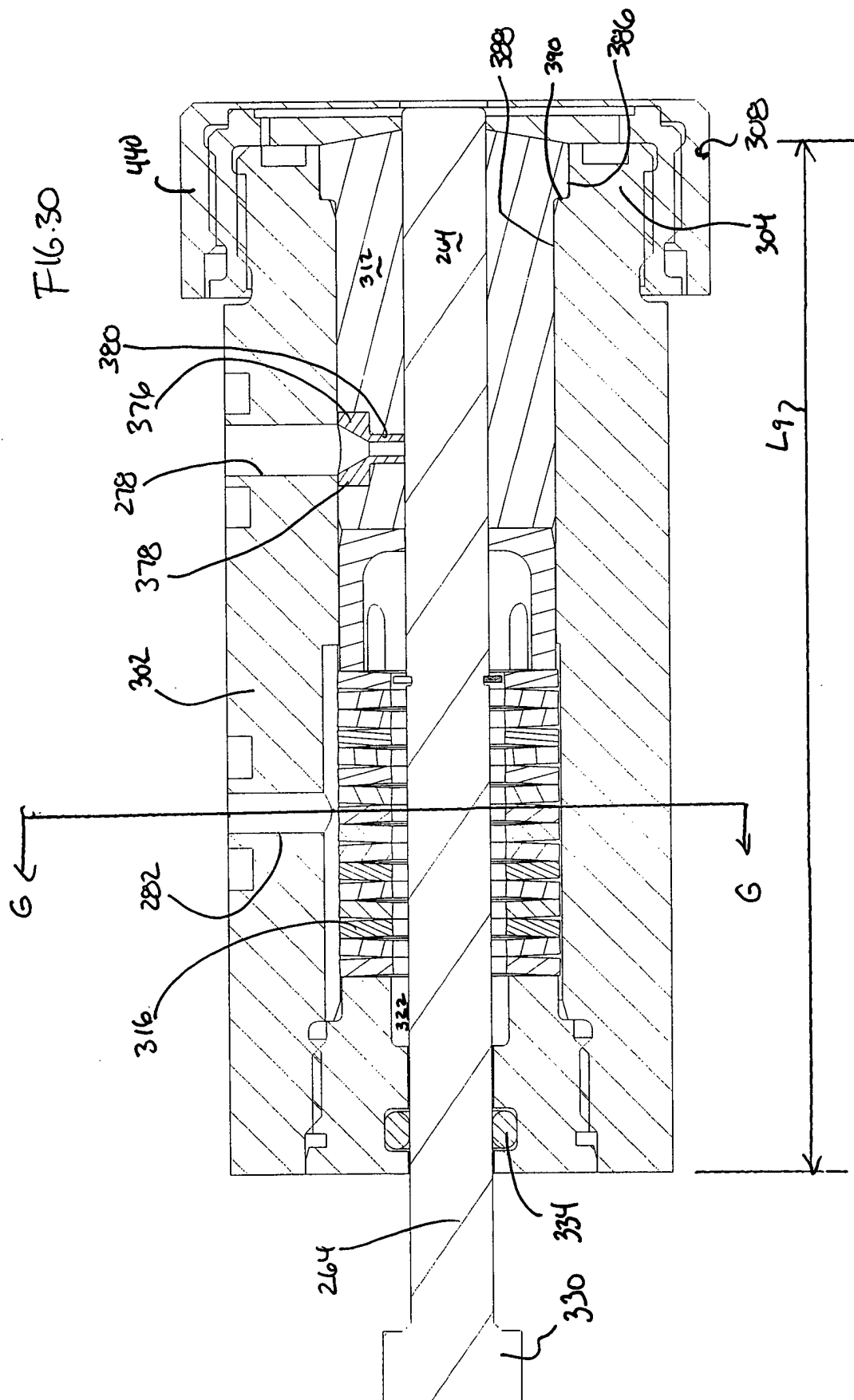
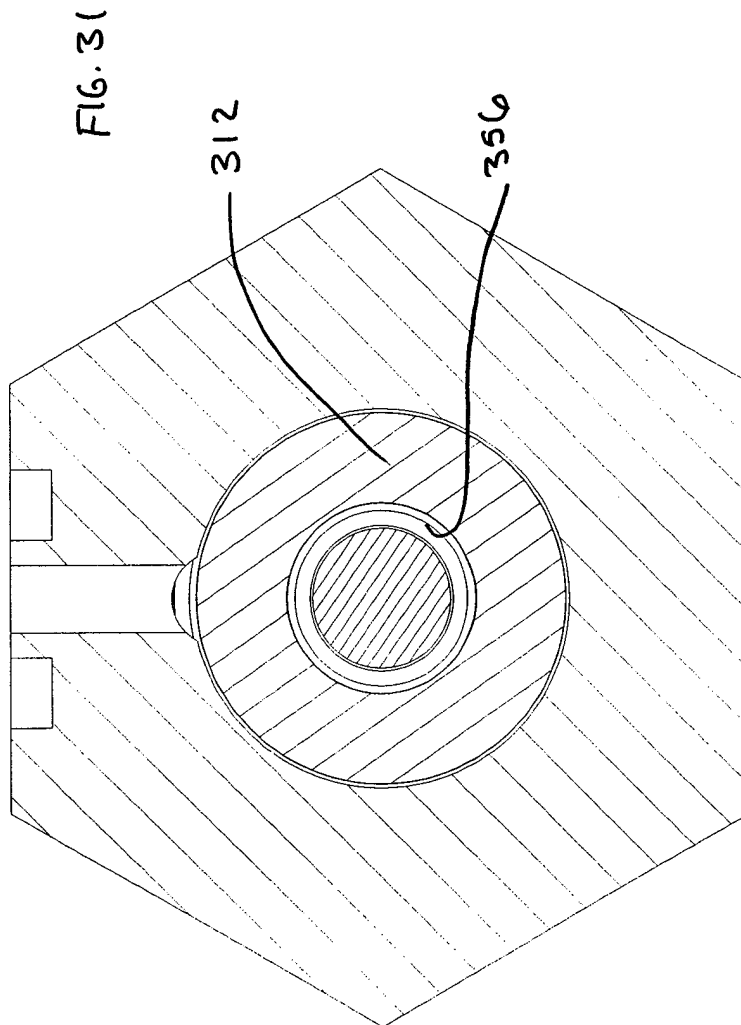


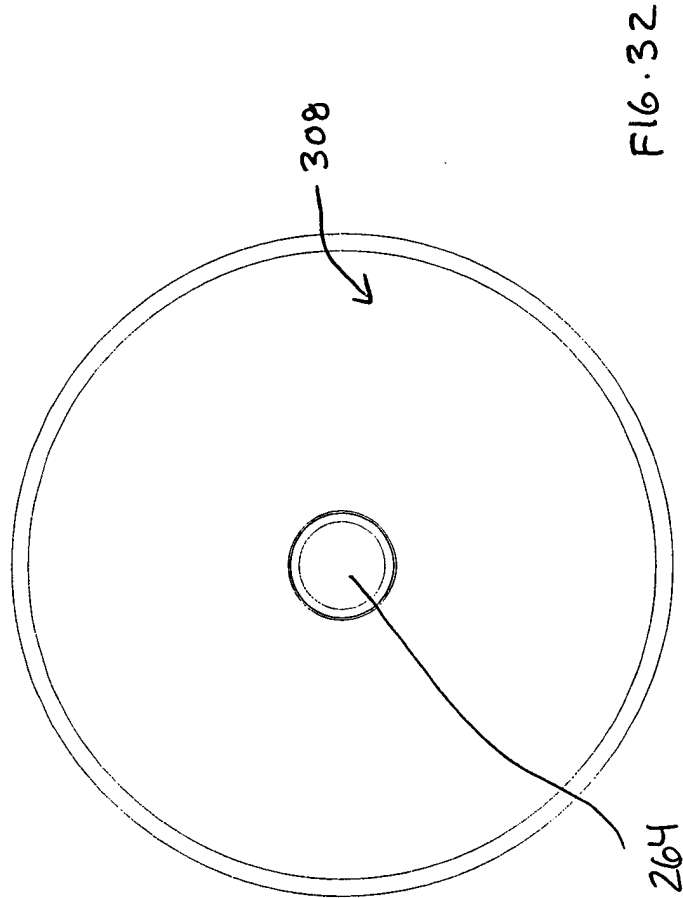
FIG. 29B

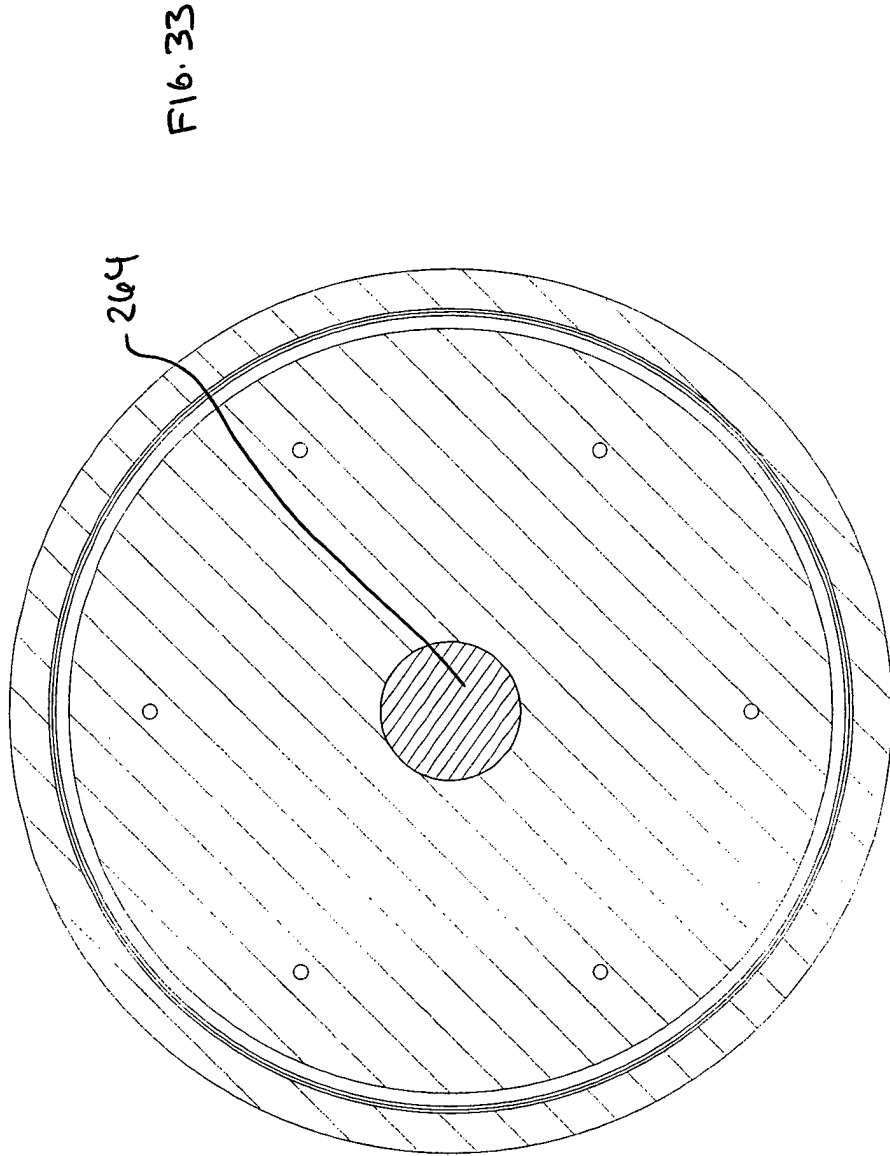












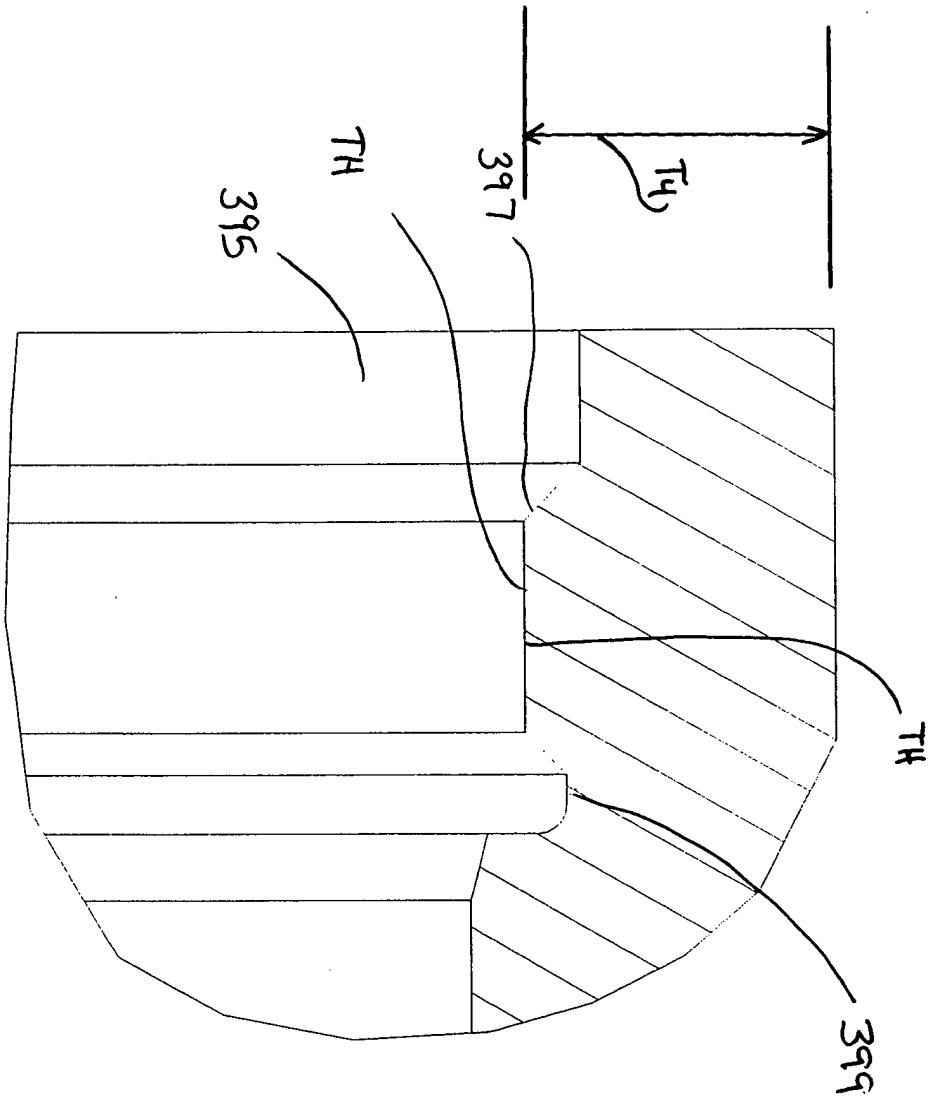


FIG. 34A

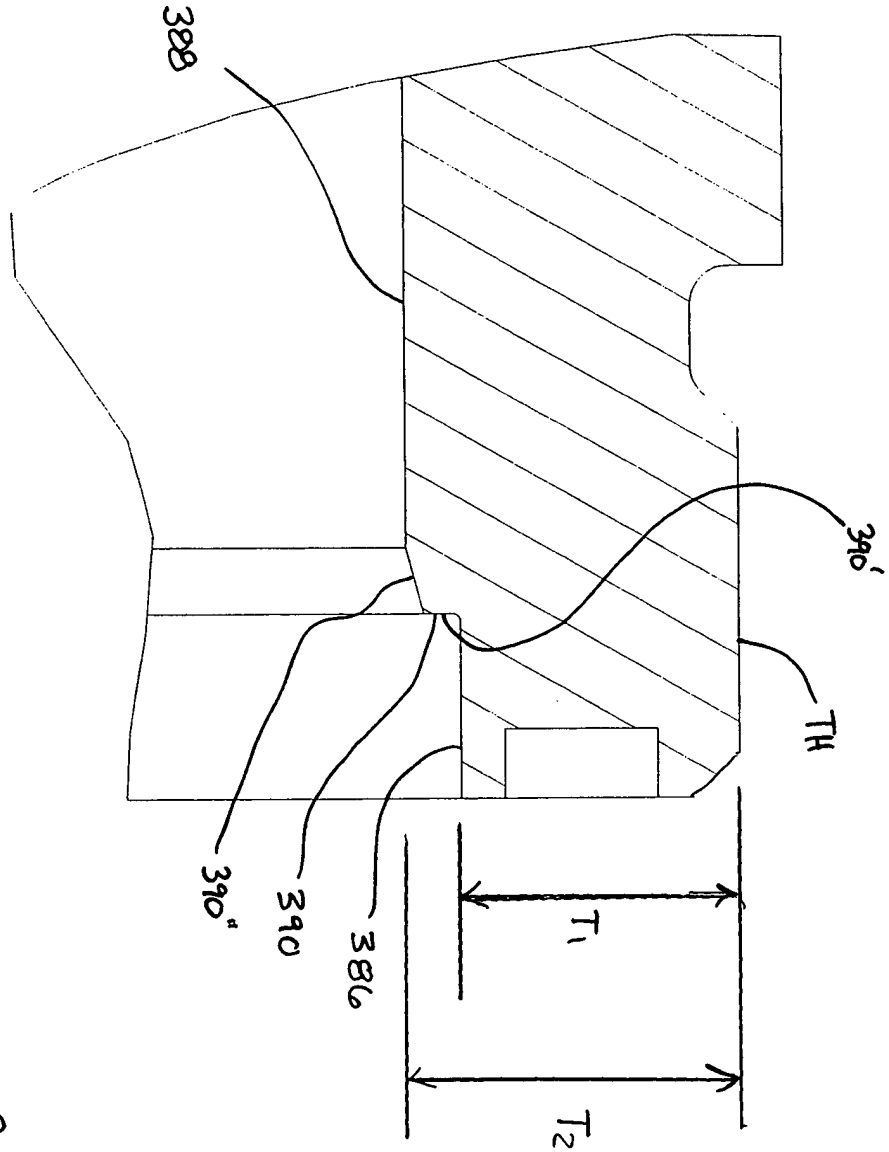


FIG. 34B

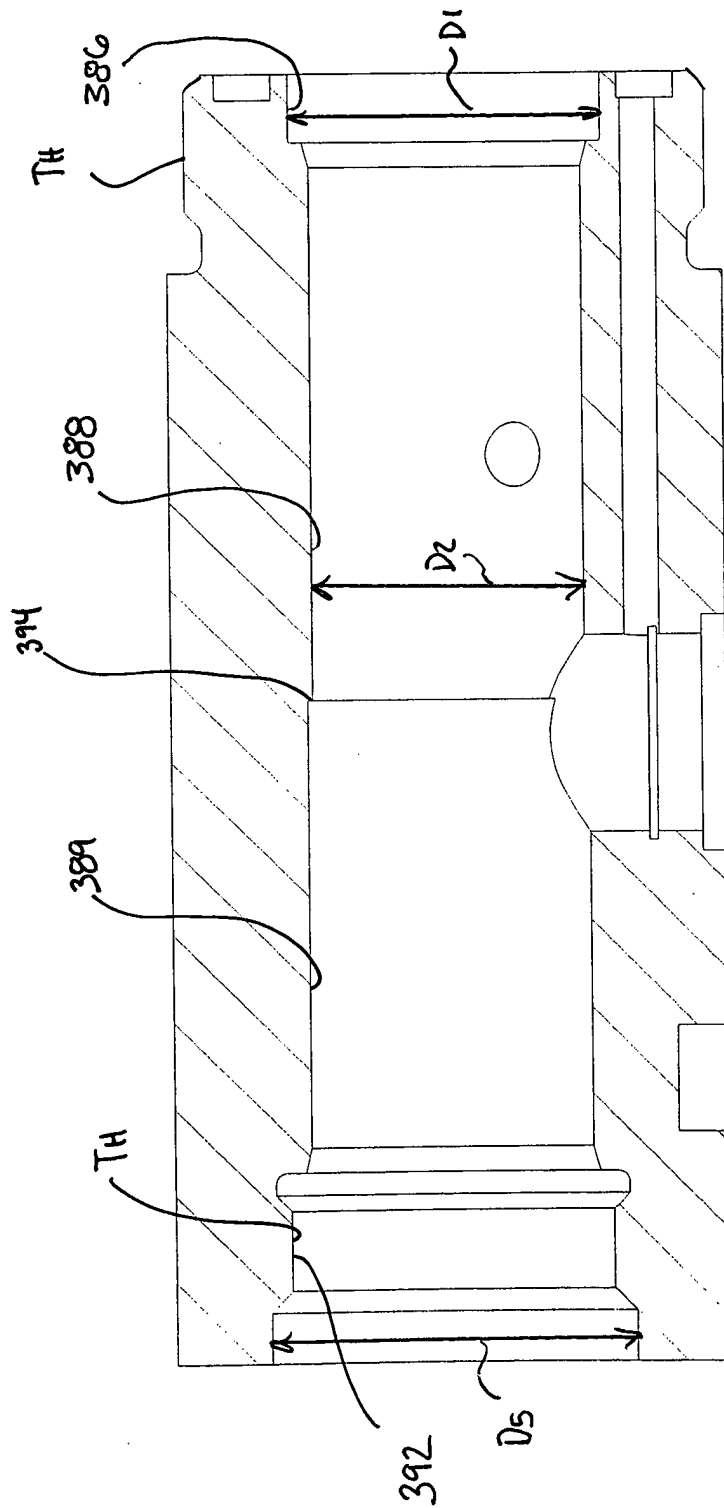


FIG. 35

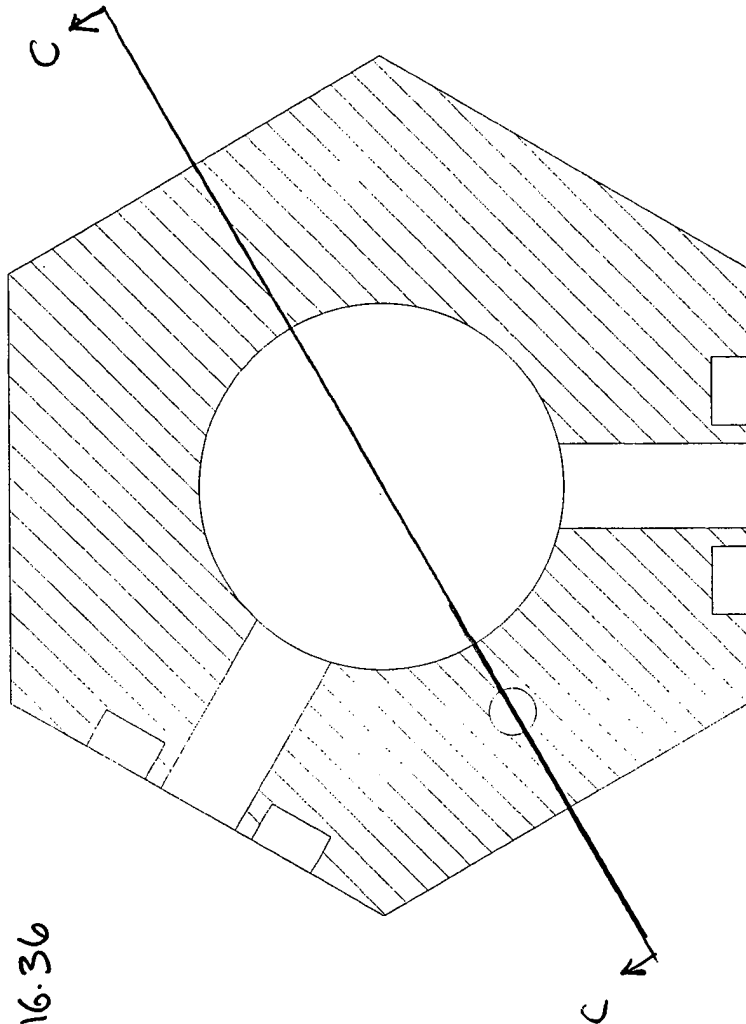


FIG. 36

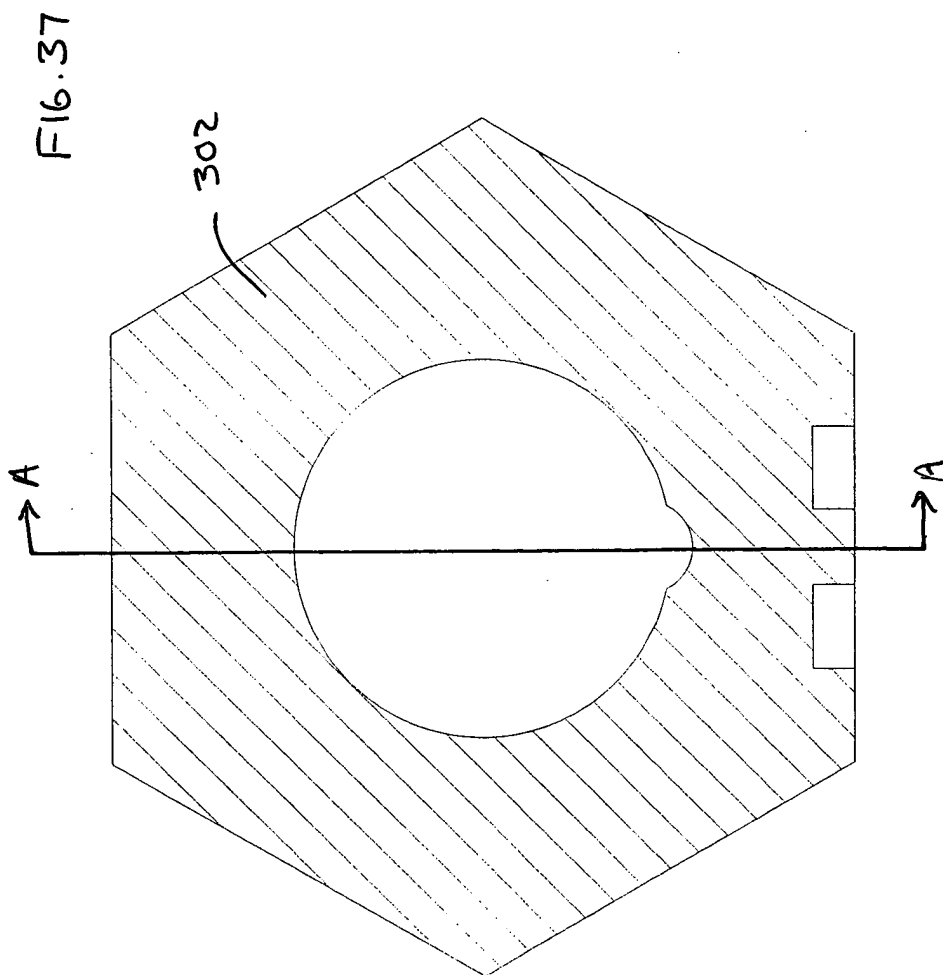
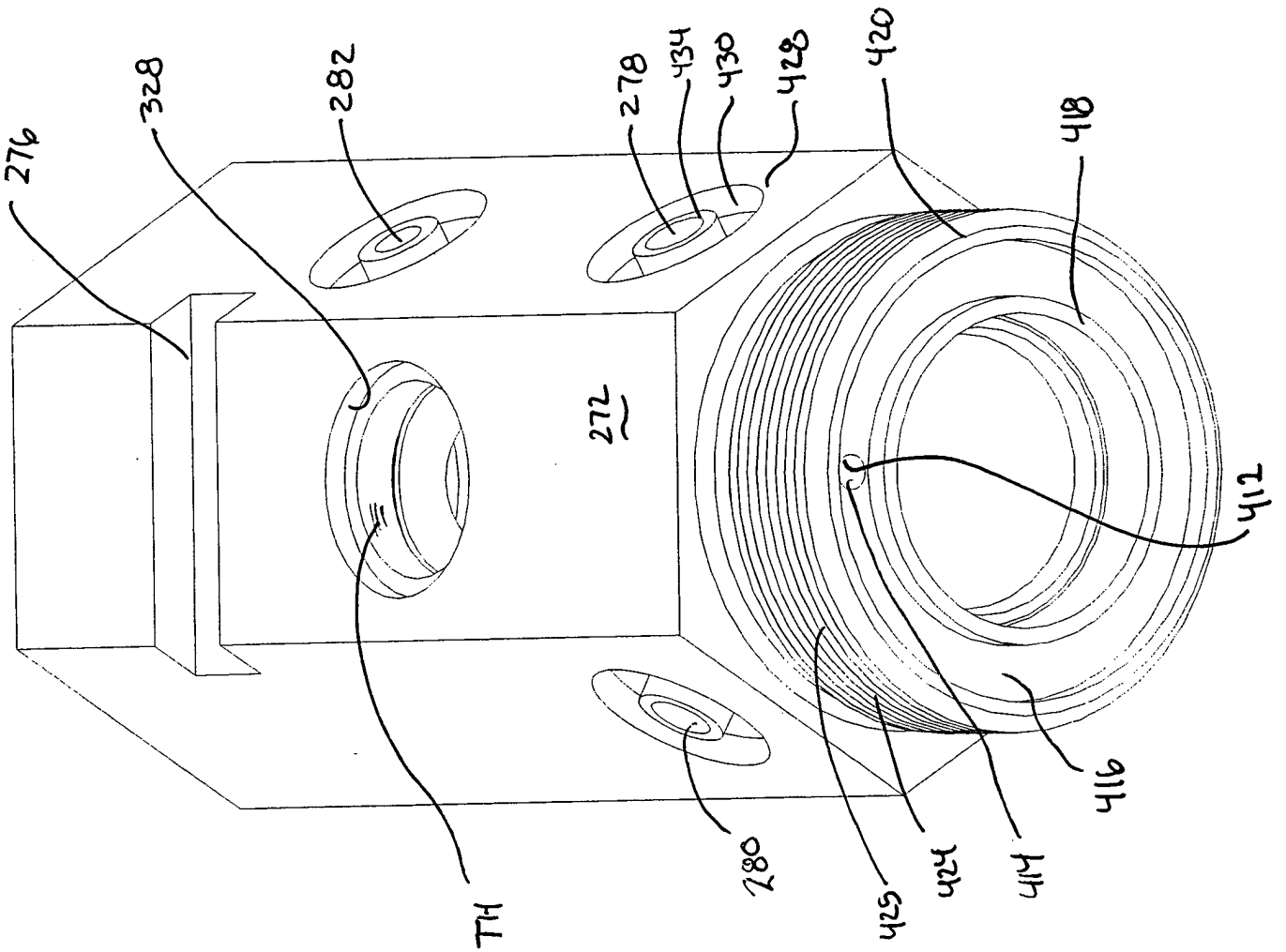
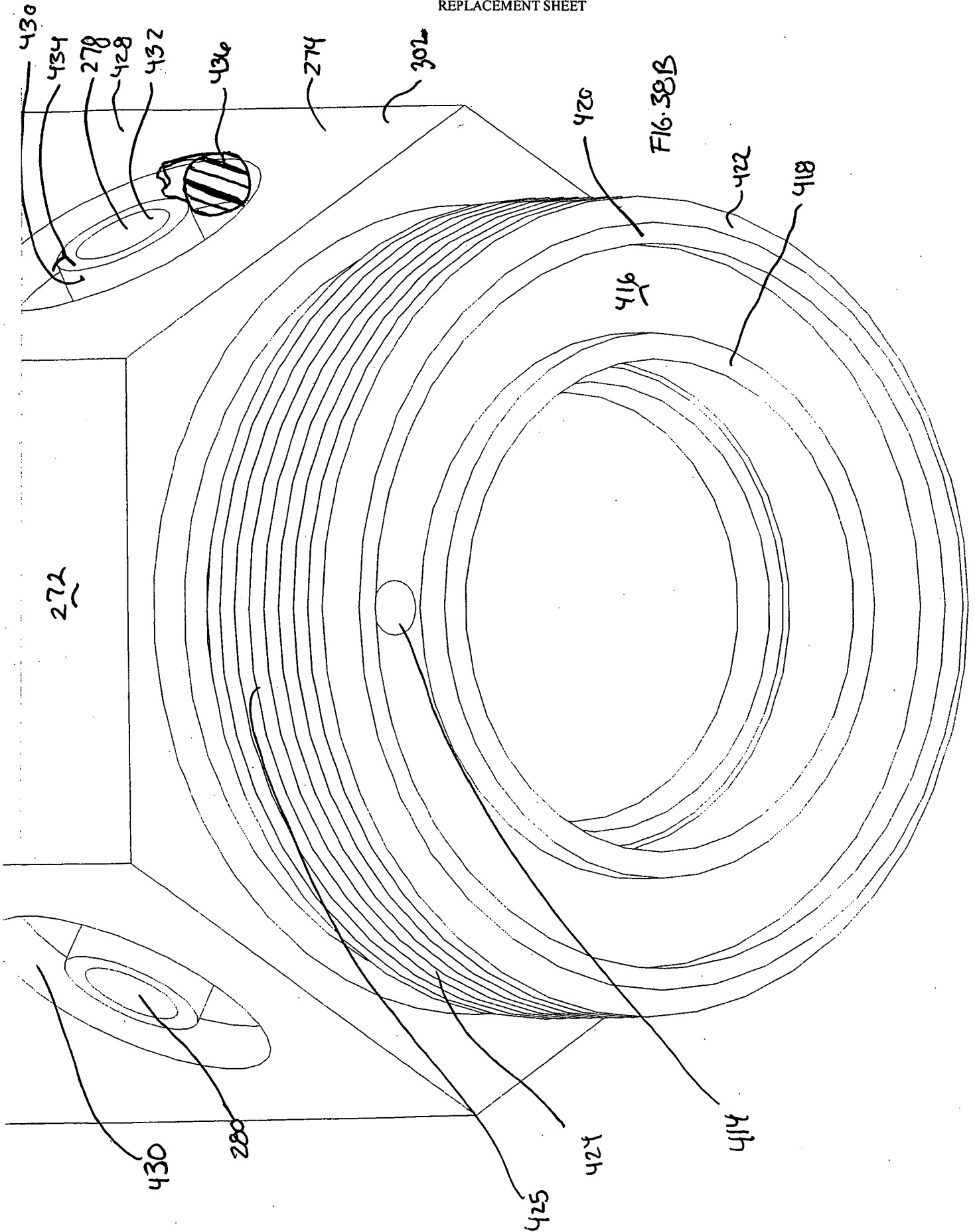
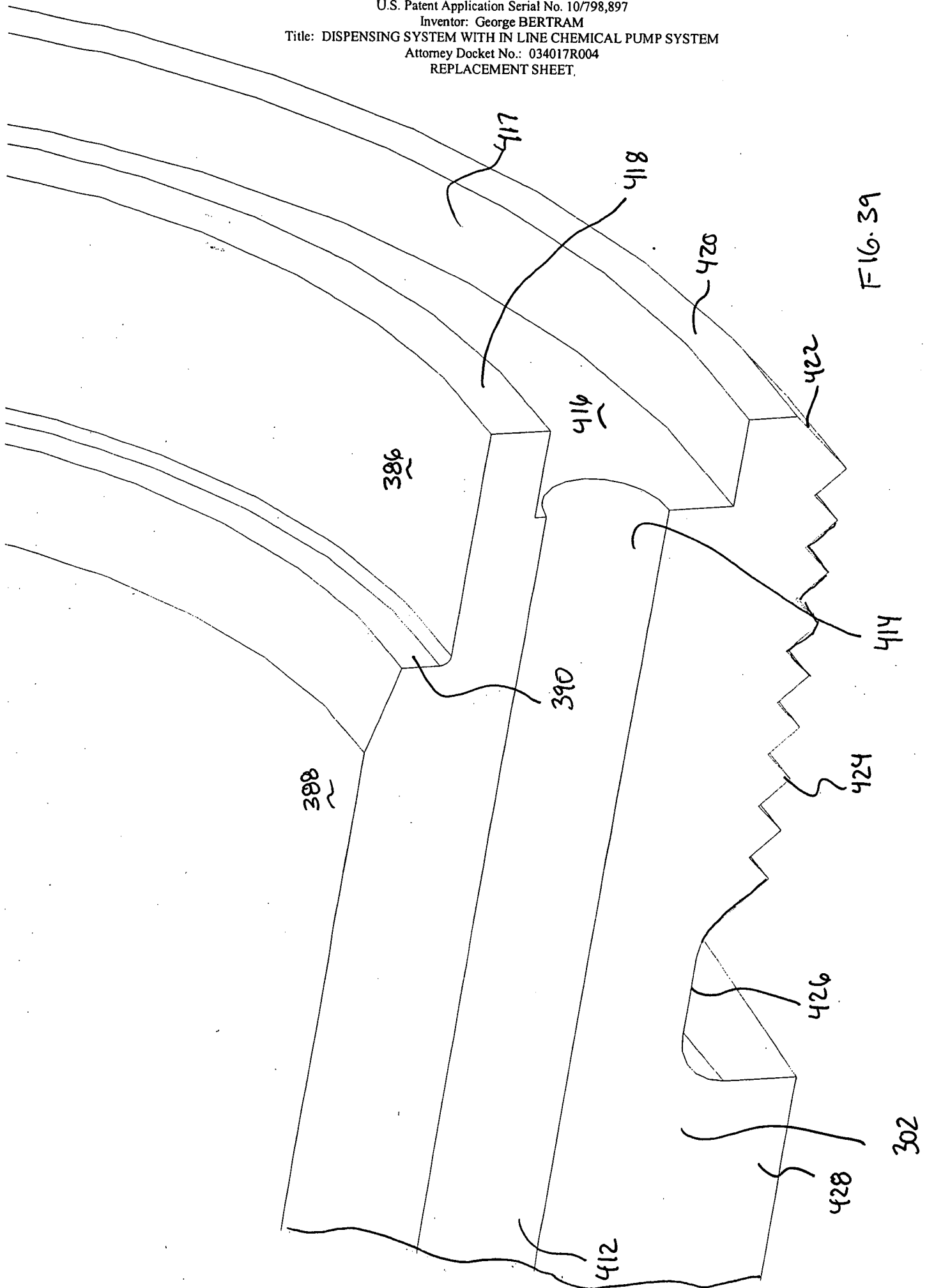
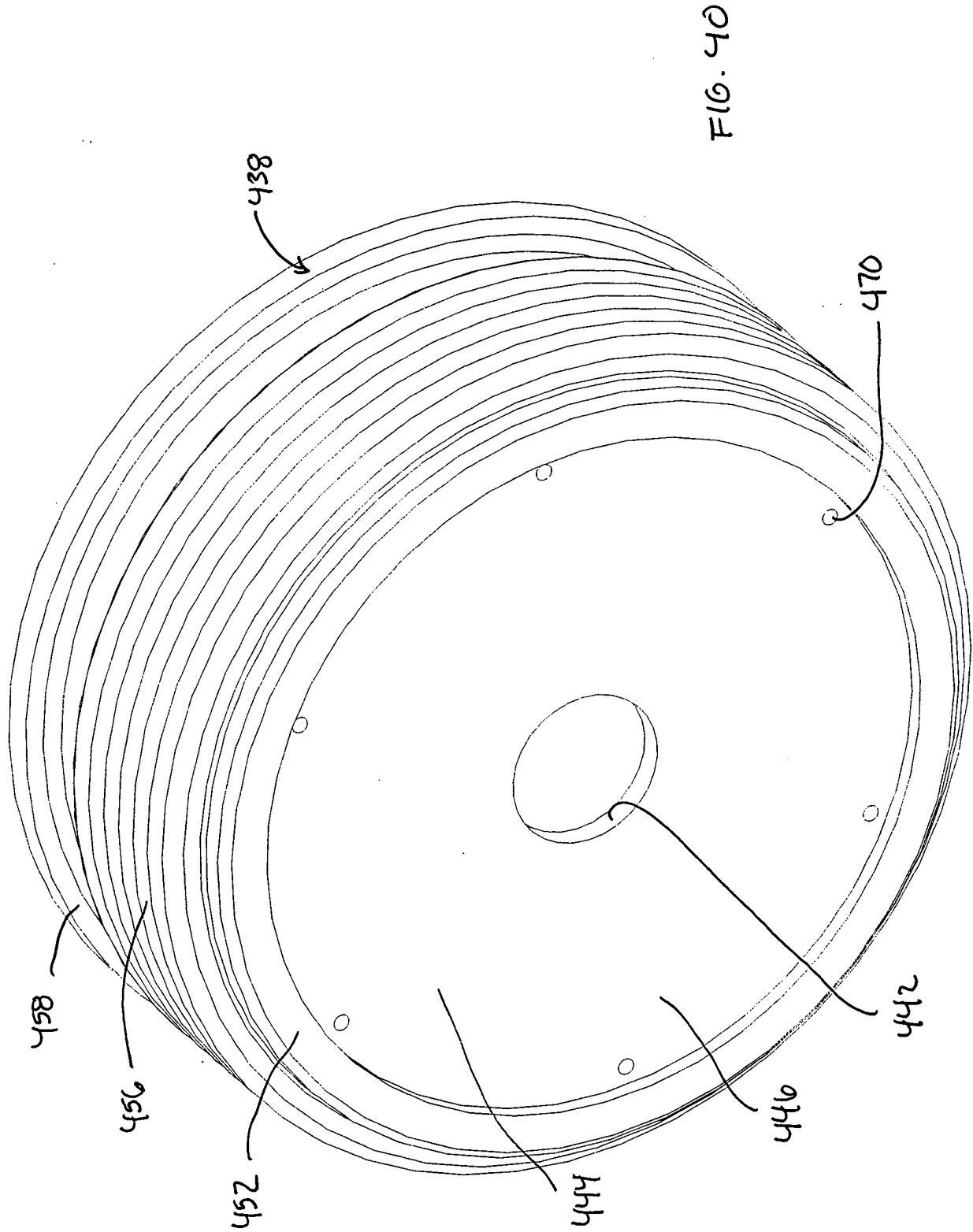


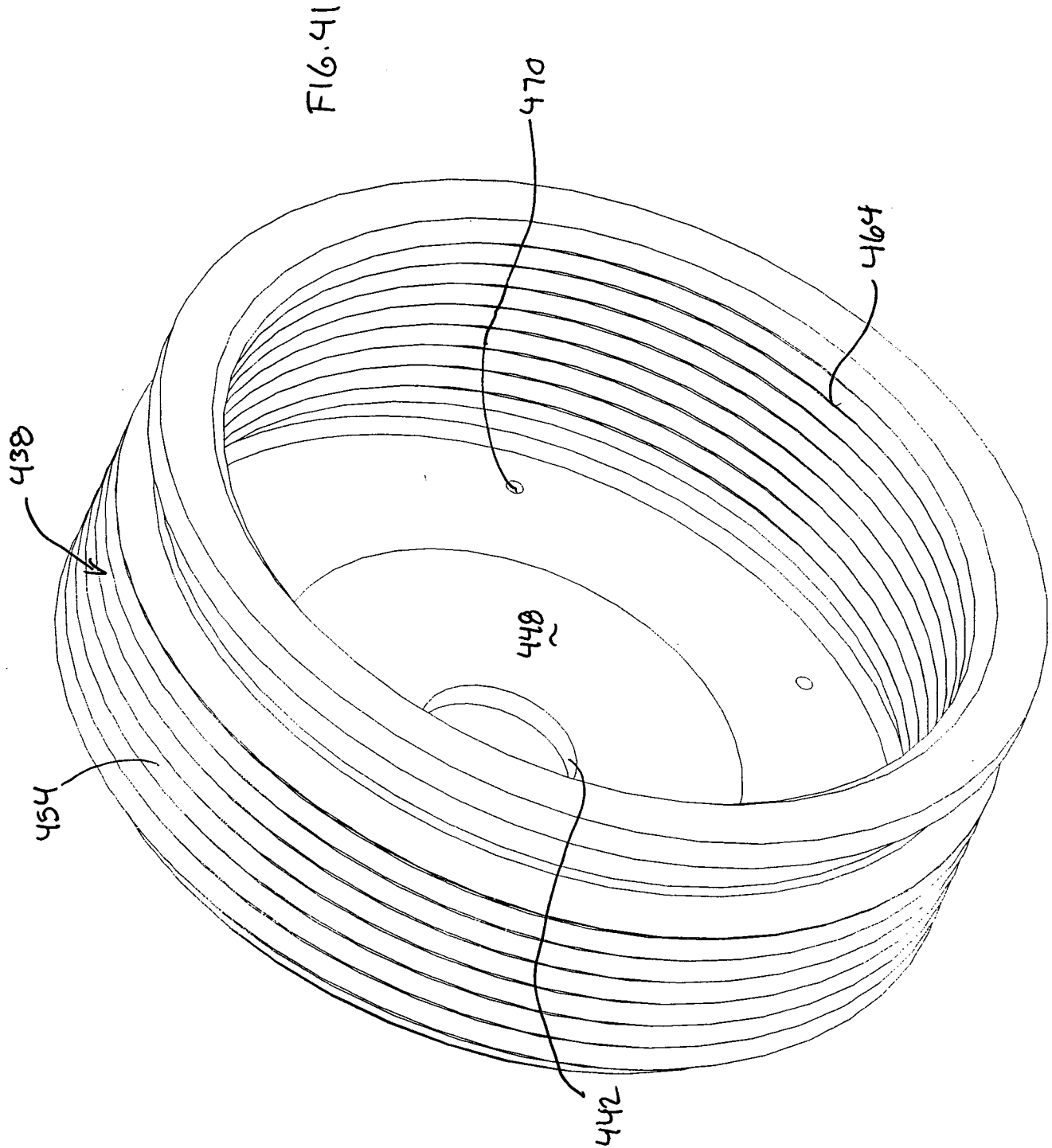
FIG. 381A

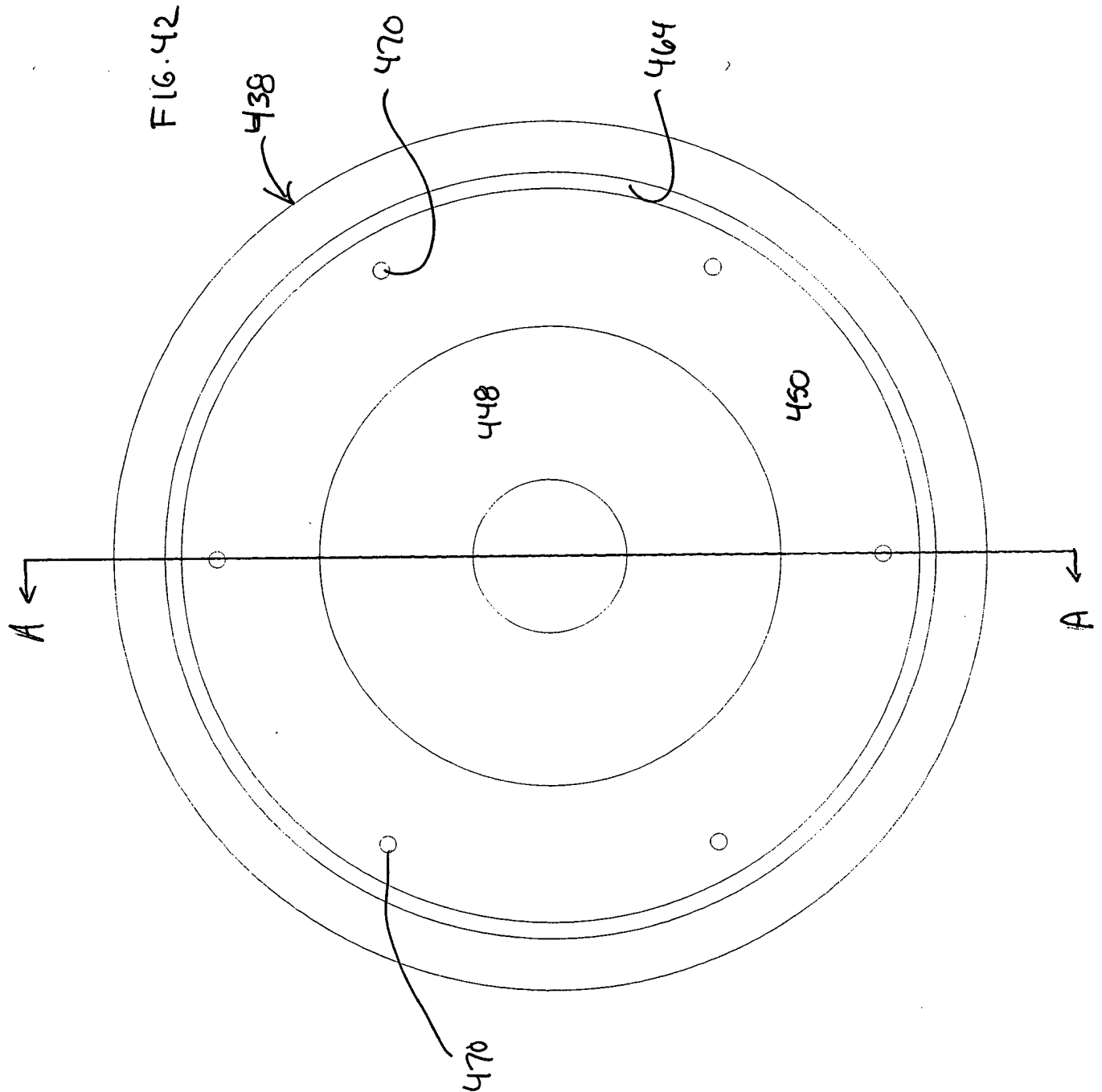












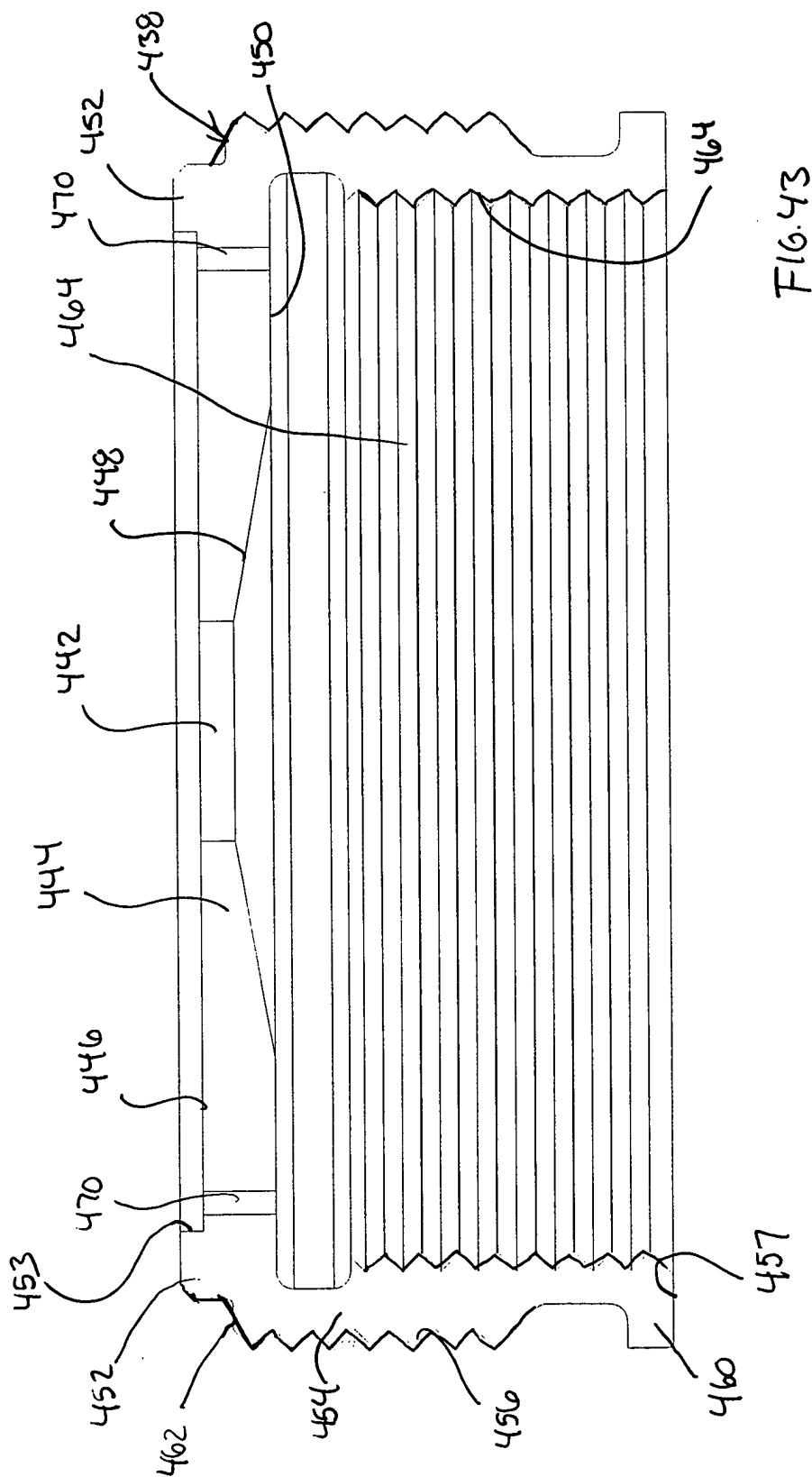
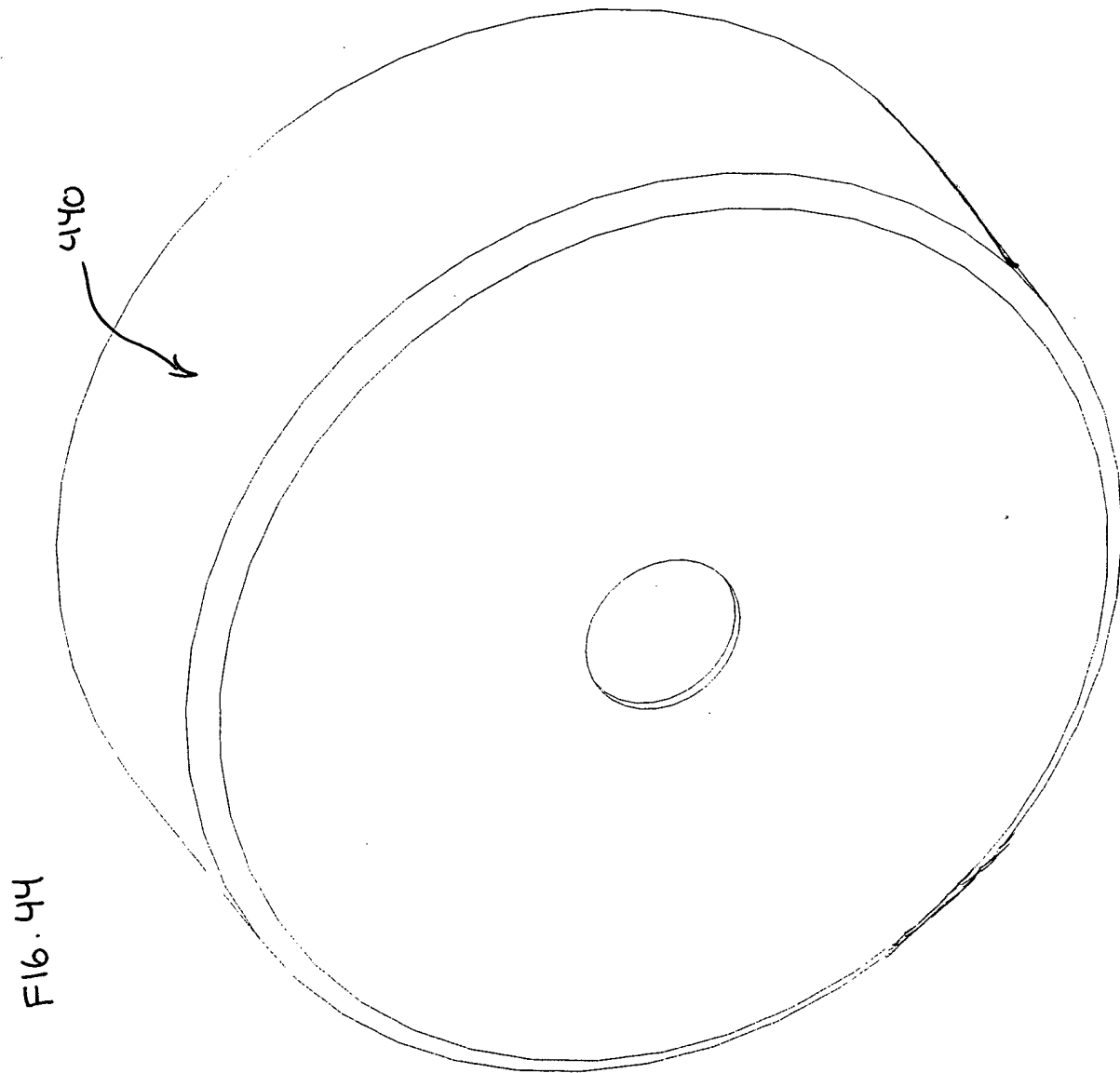
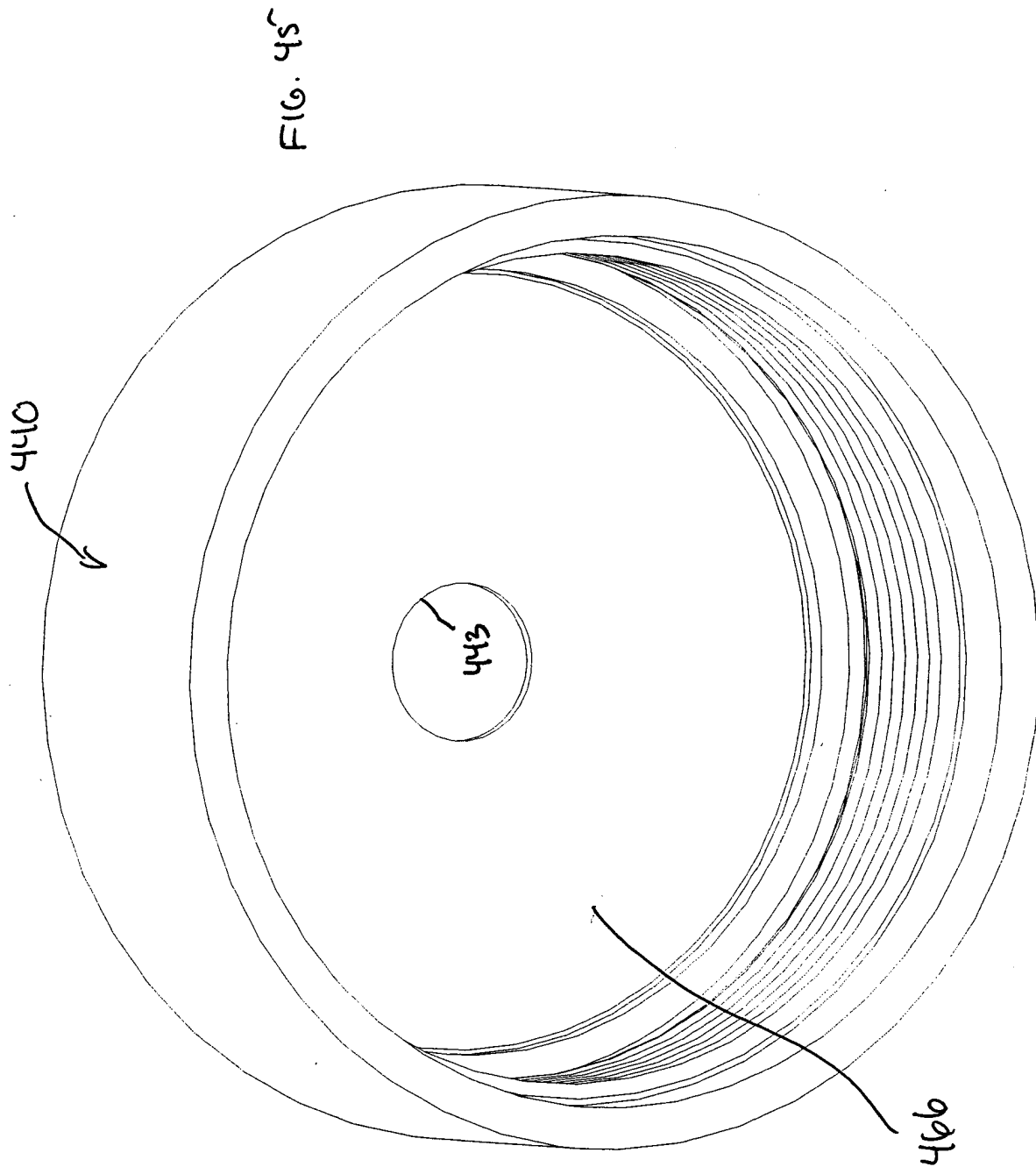
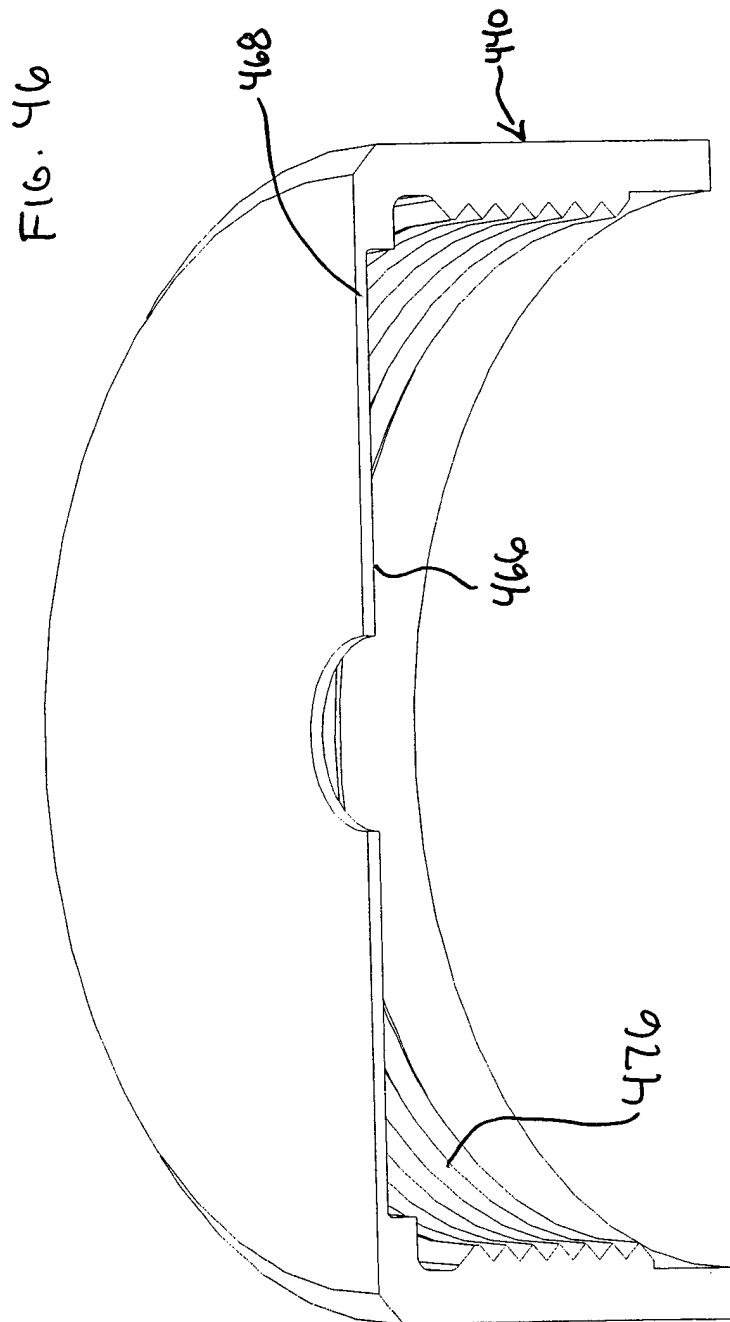


FIG. 43







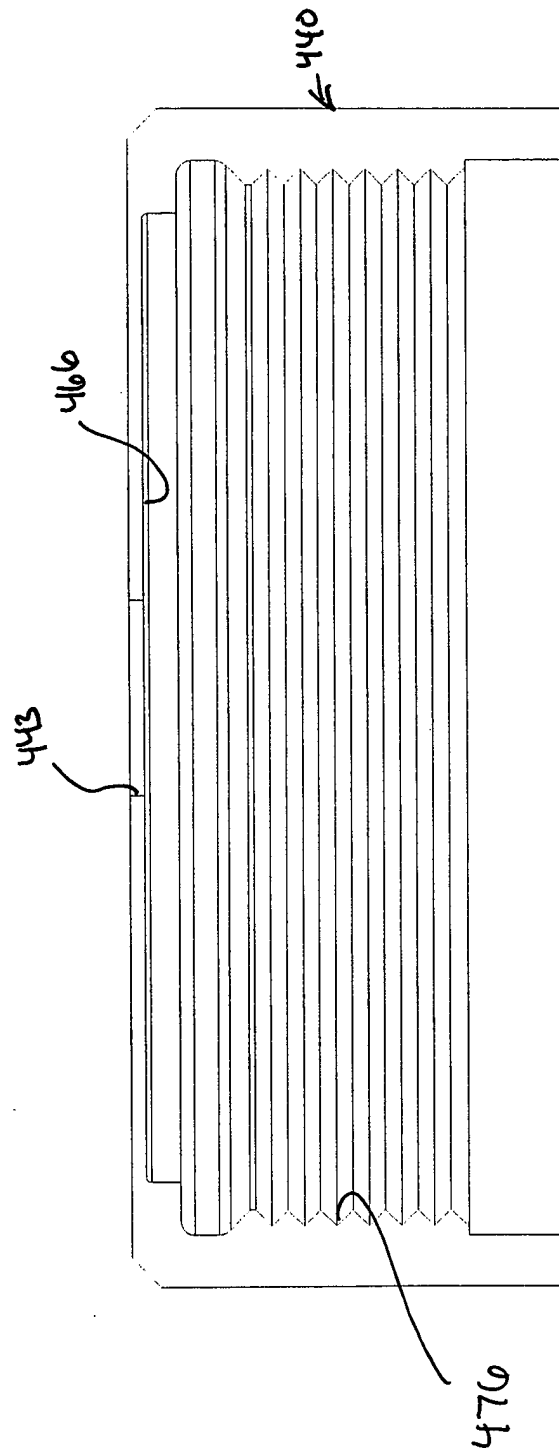
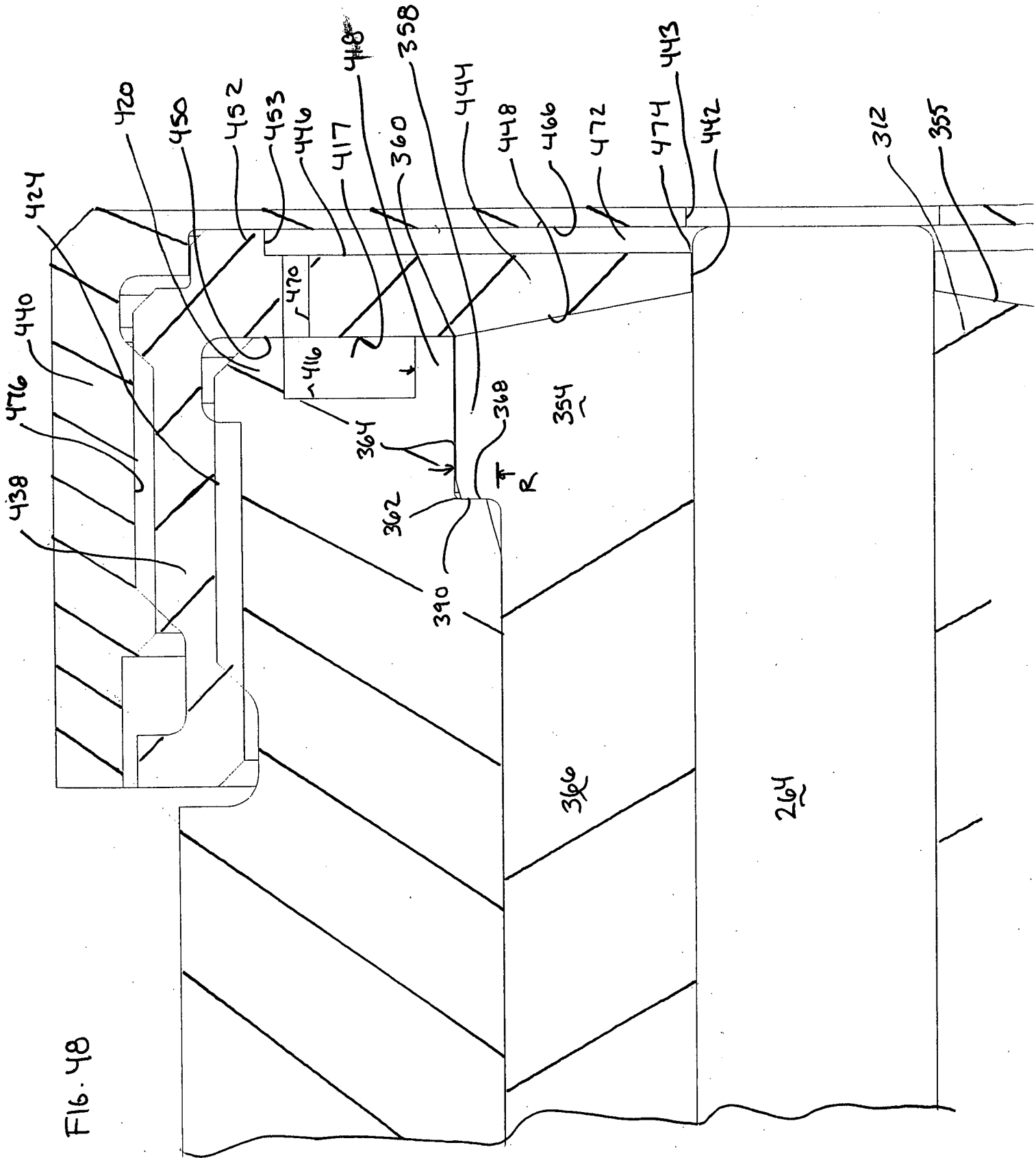


FIG. 47

FIG. 48



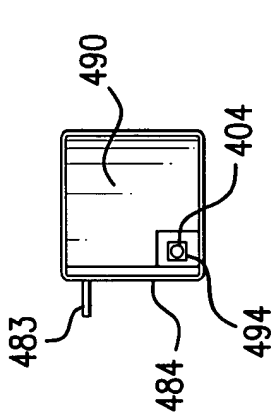


FIG. 53

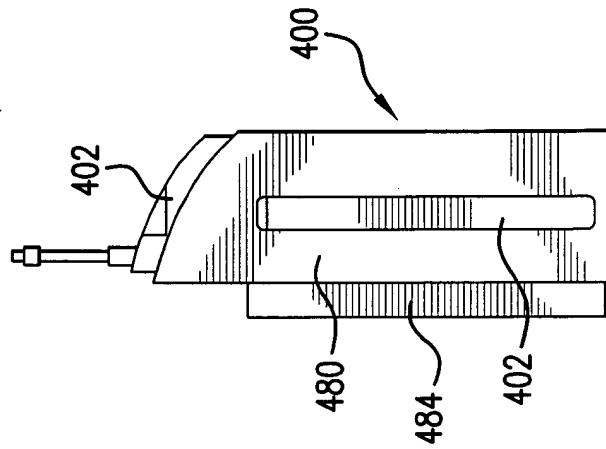


FIG. 52

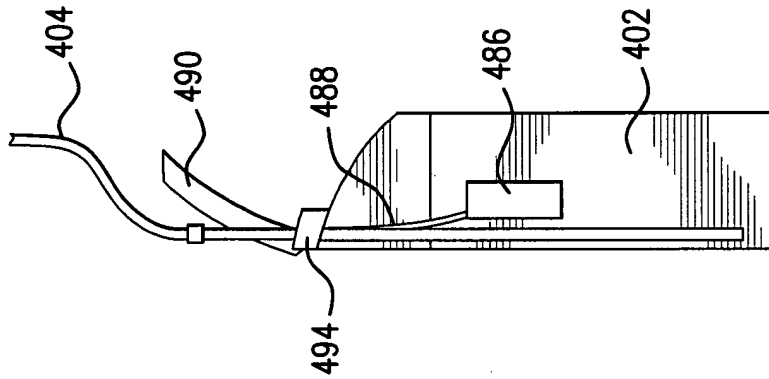


FIG. 51

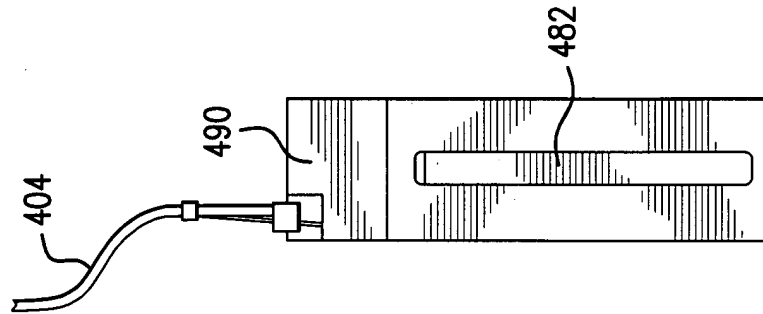


FIG. 50

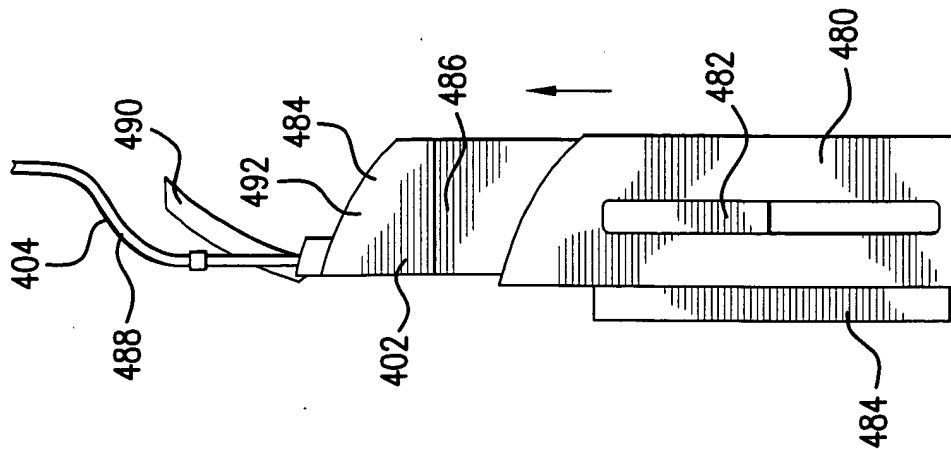


FIG. 49

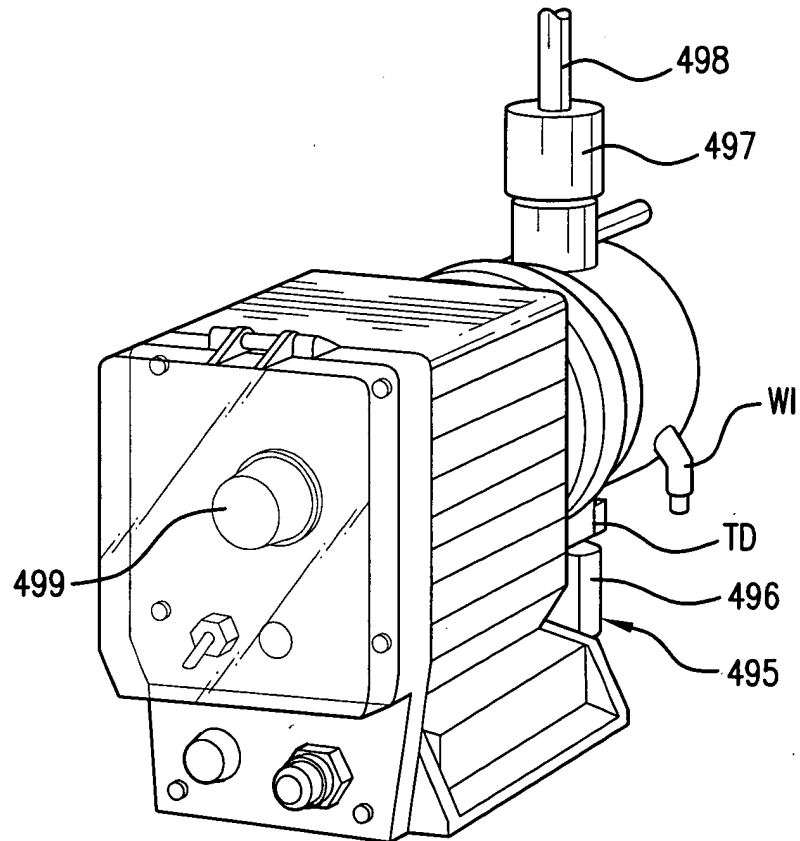
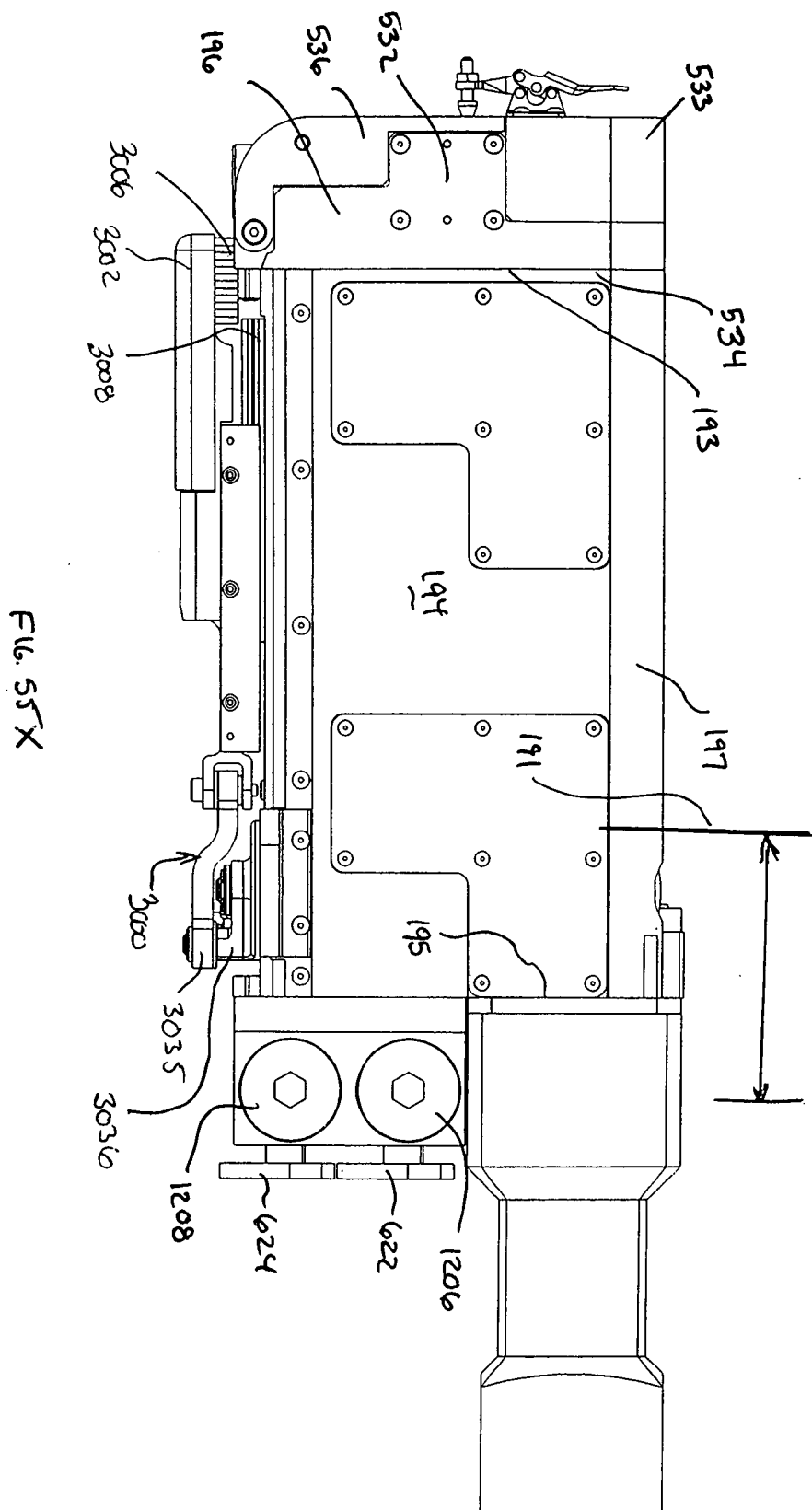


FIG. 54



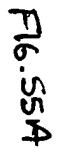
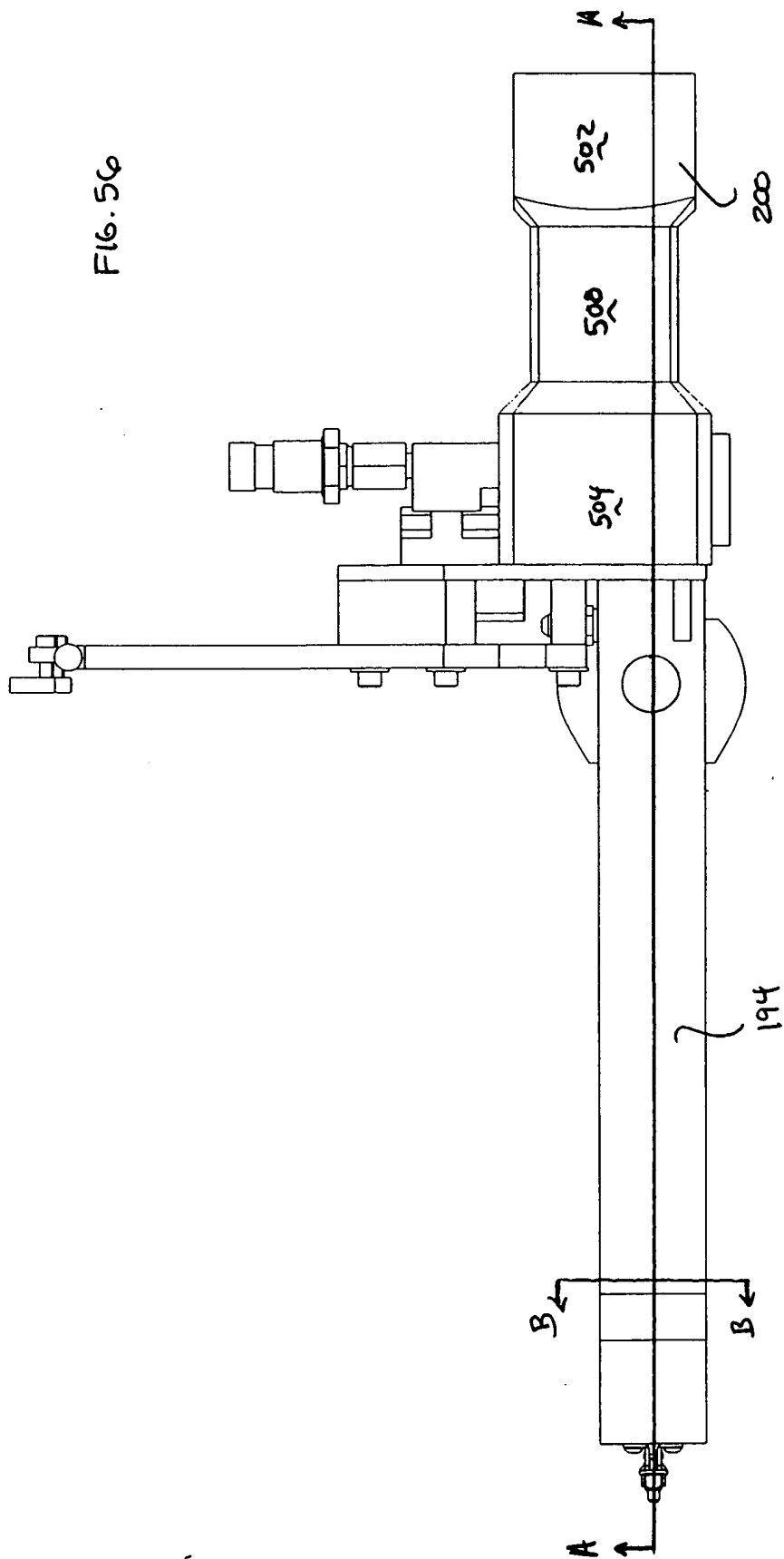
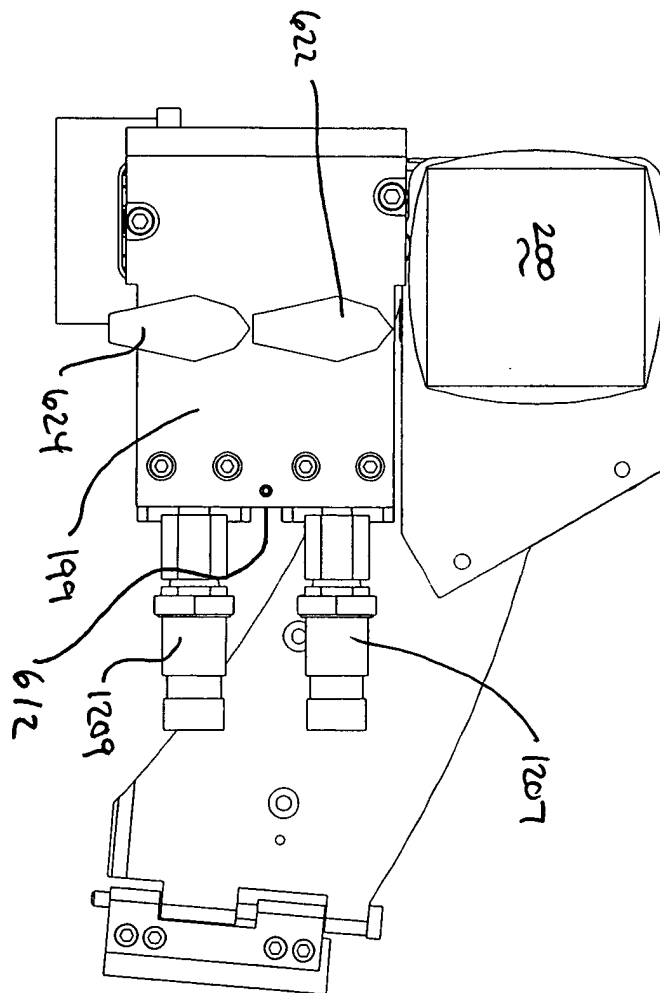


FIG. 56





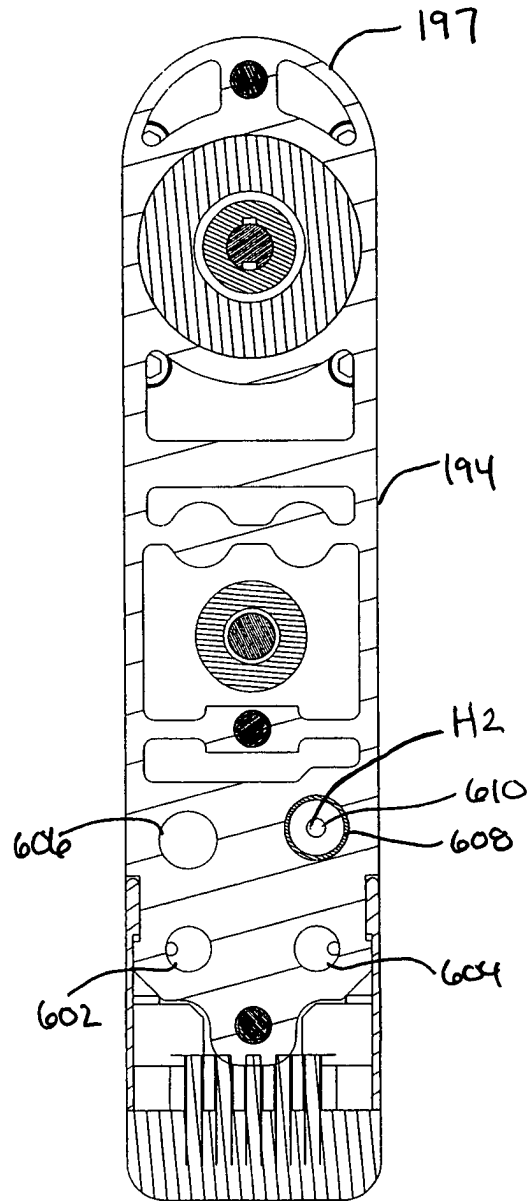
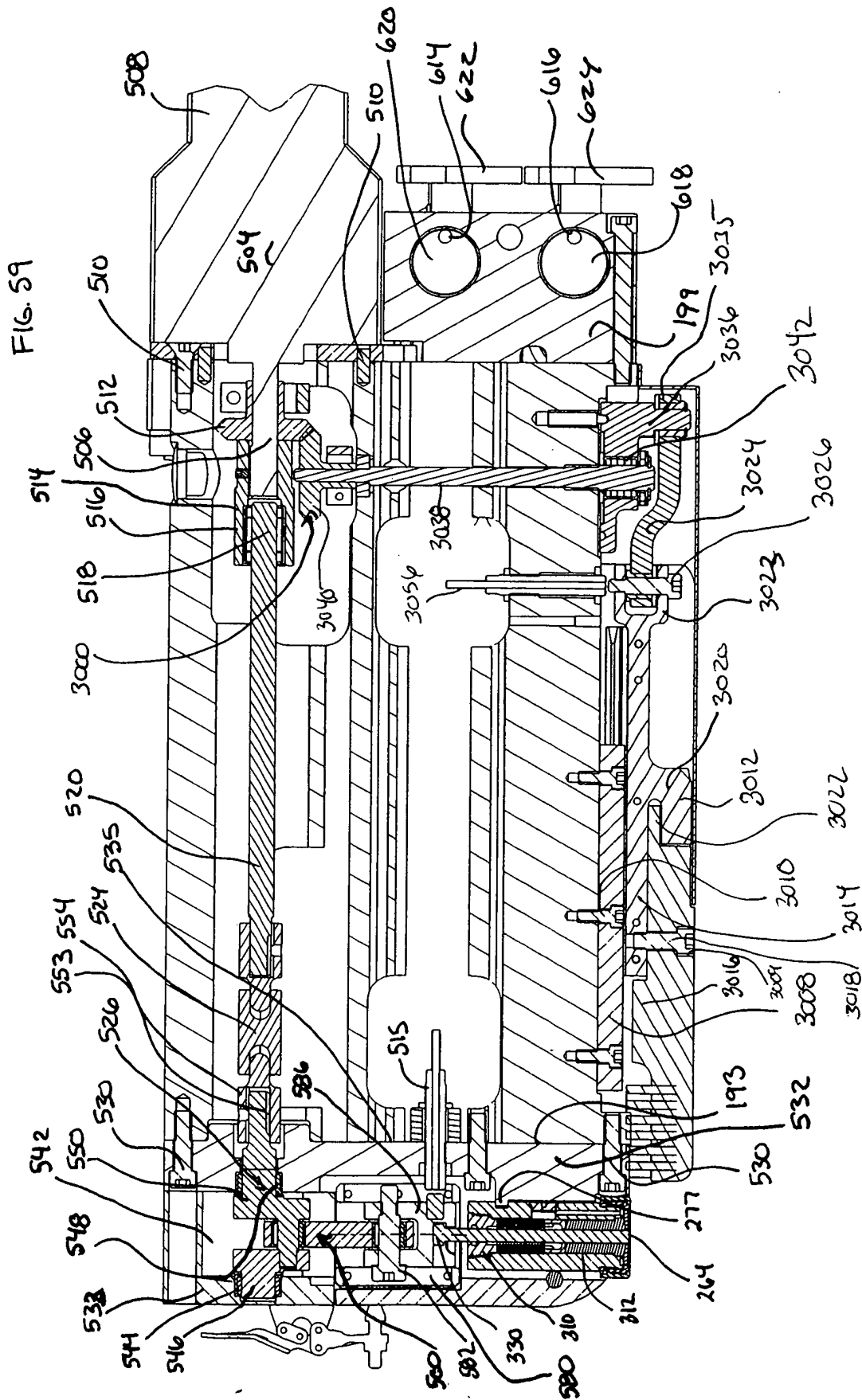


FIG. 58



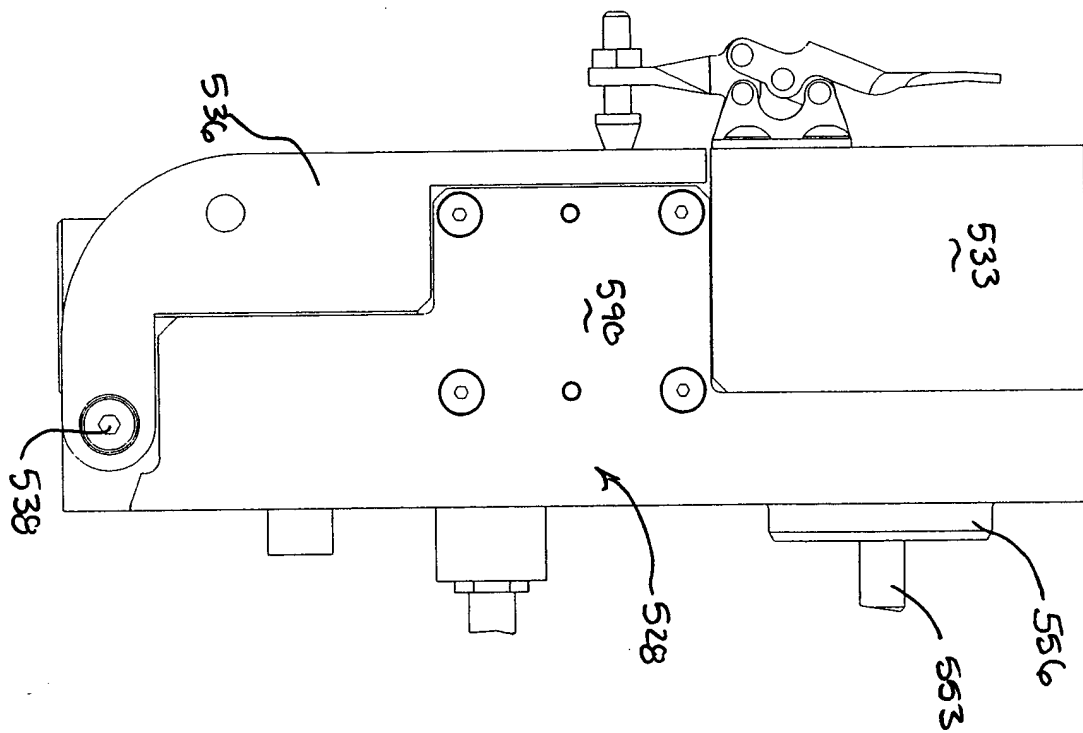


FIG. 60

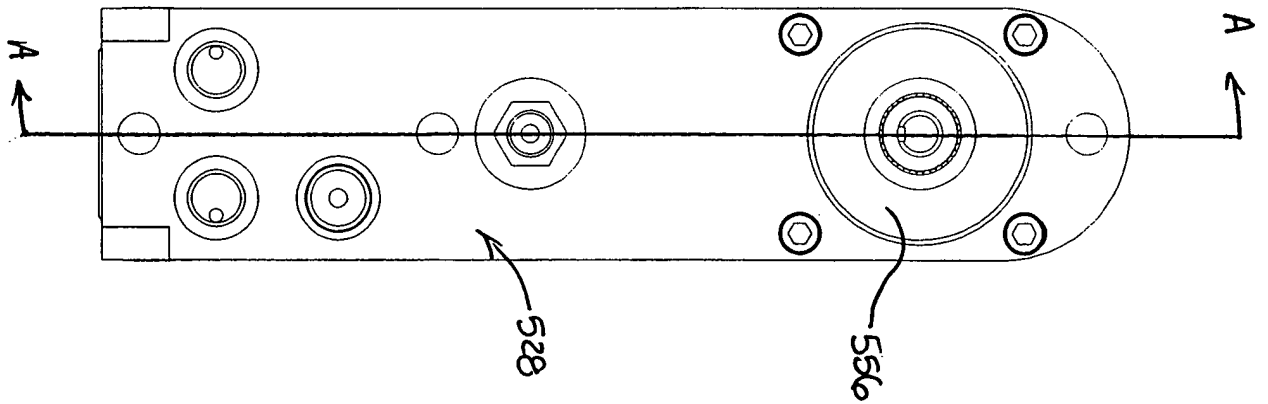


FIG. 61

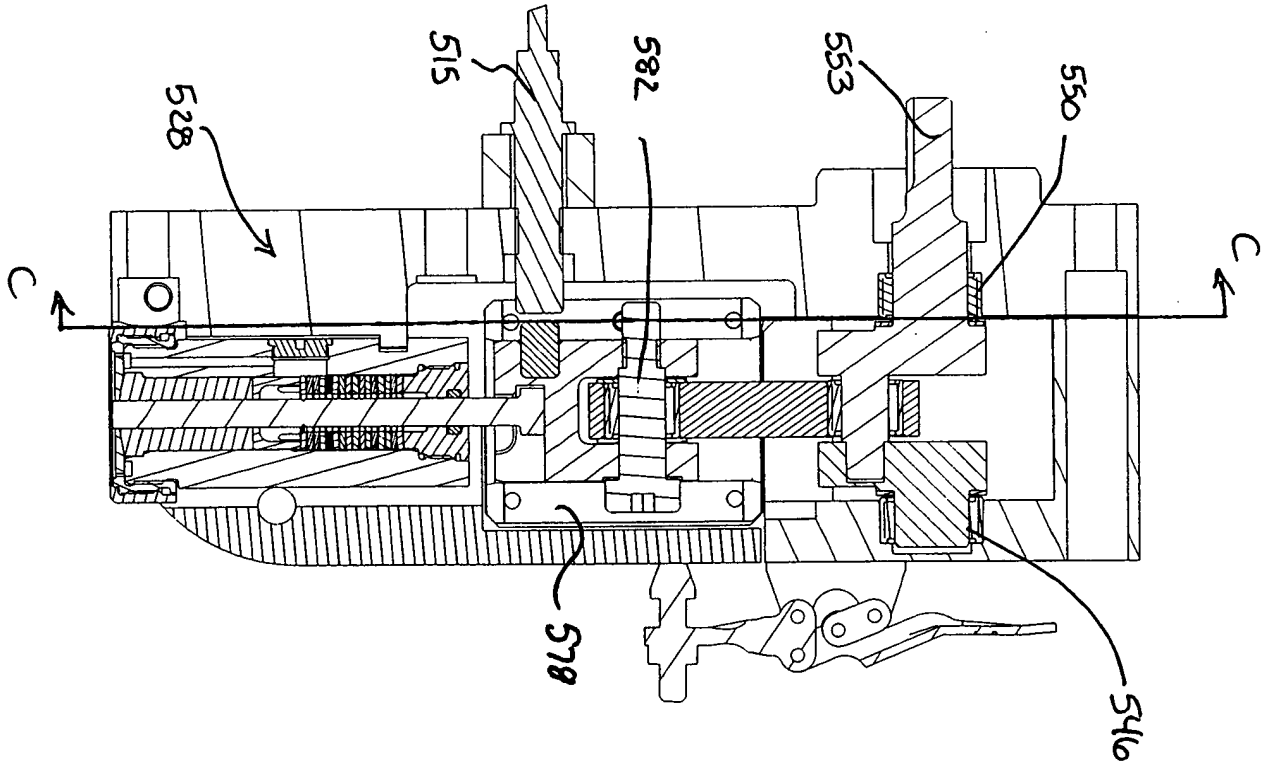


FIG. 62

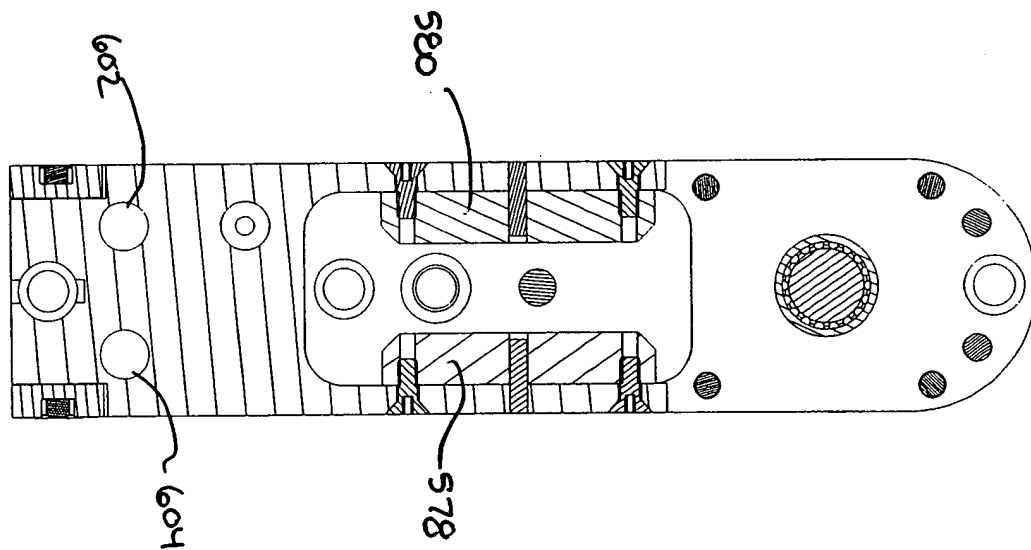
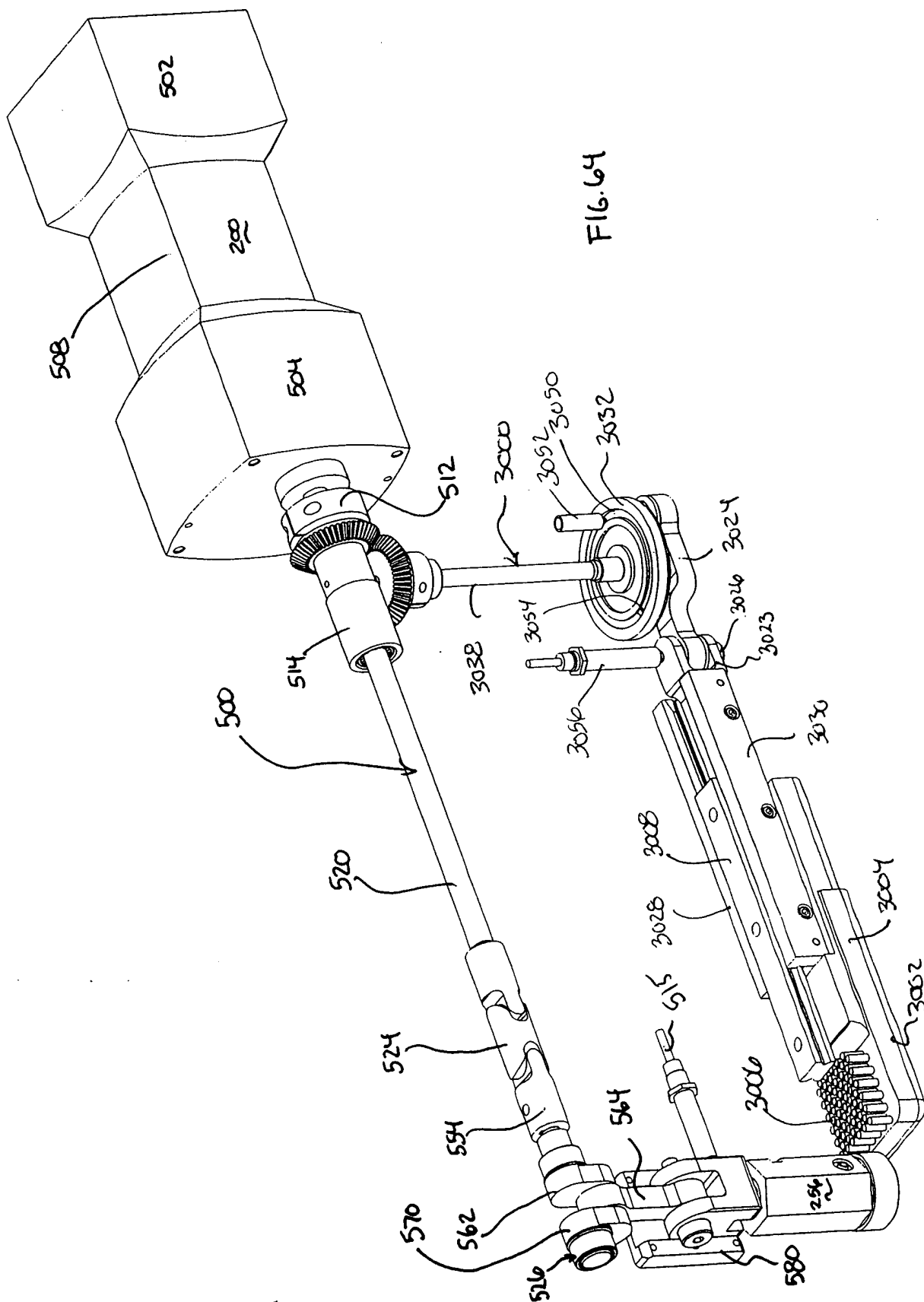


FIG. 63



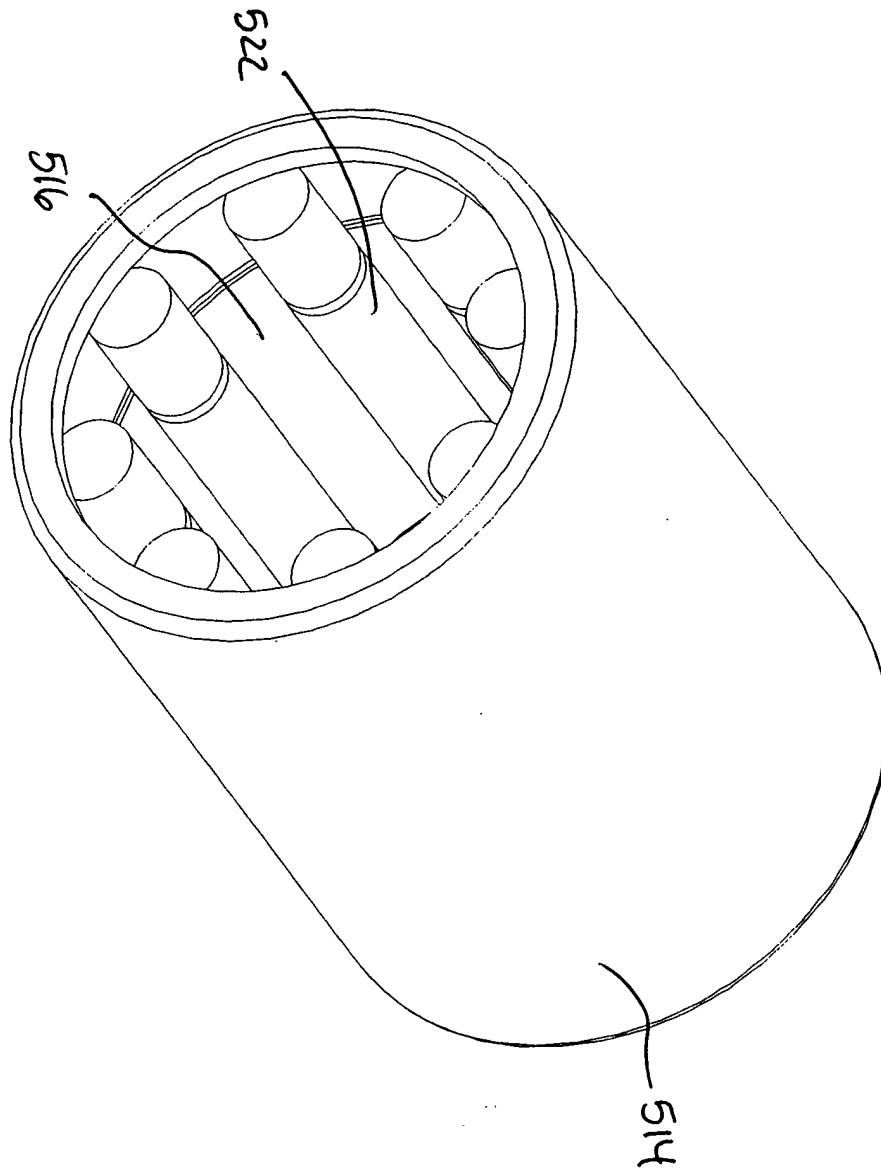


FIG. 65

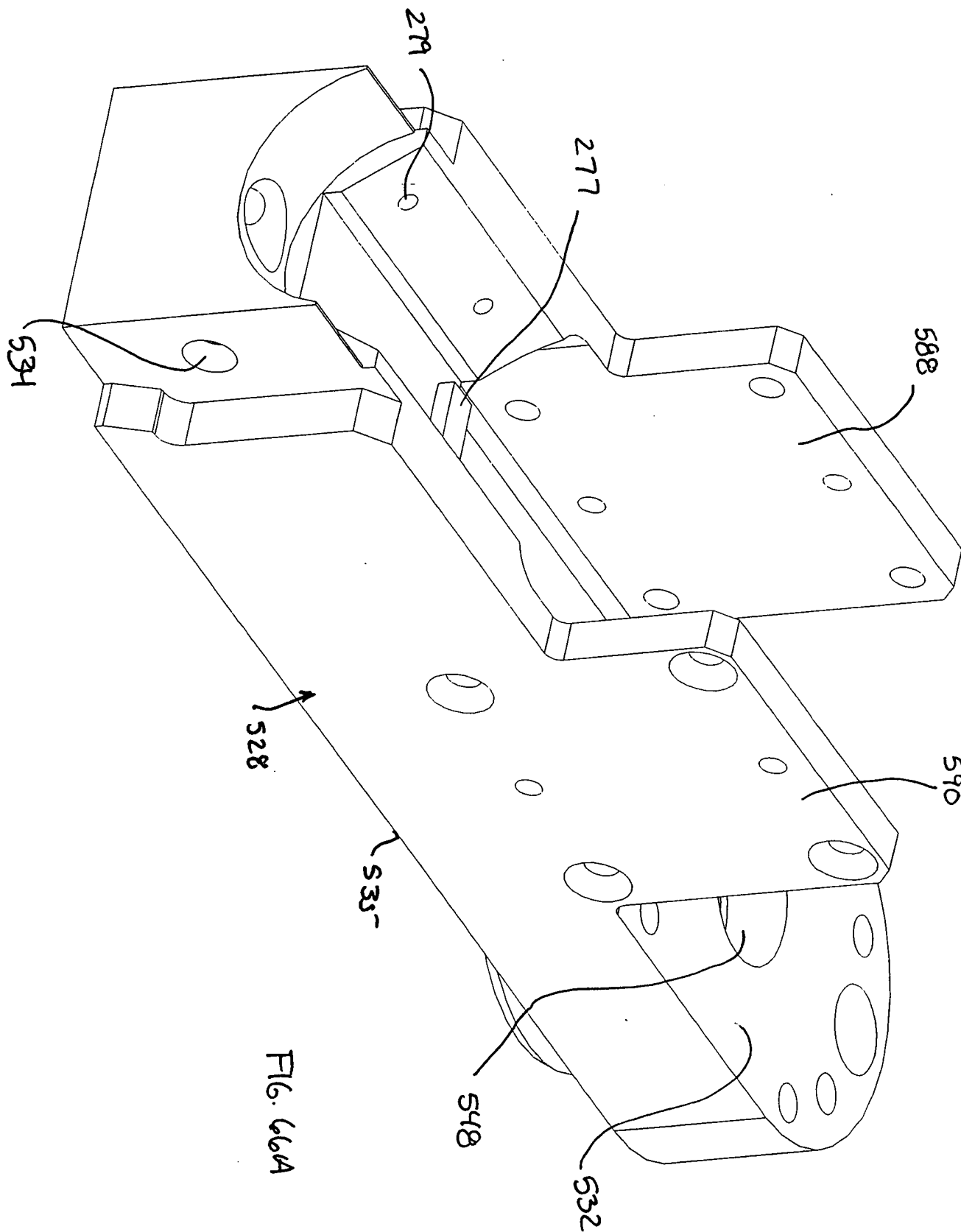


FIG. 664

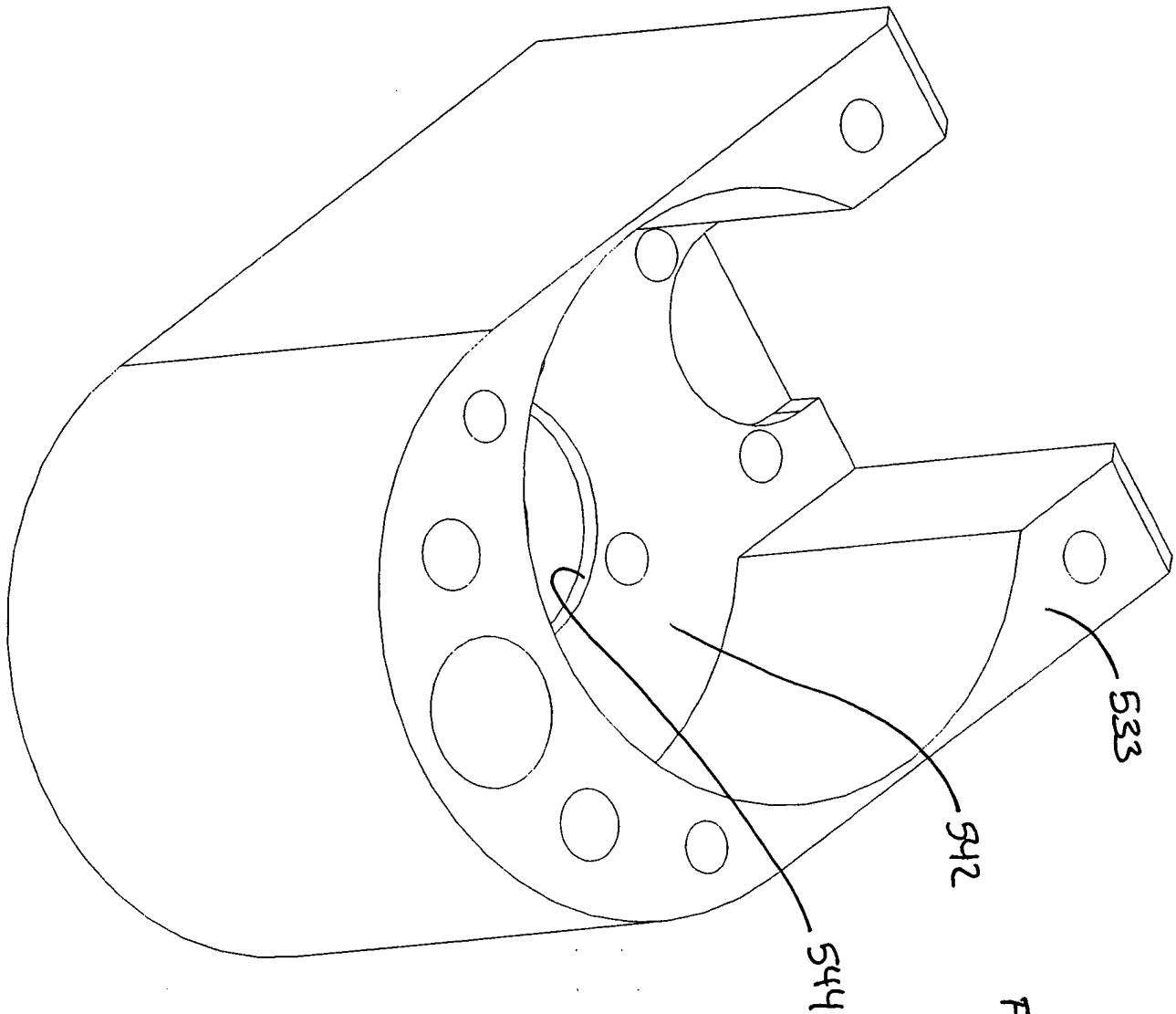


FIG. 668

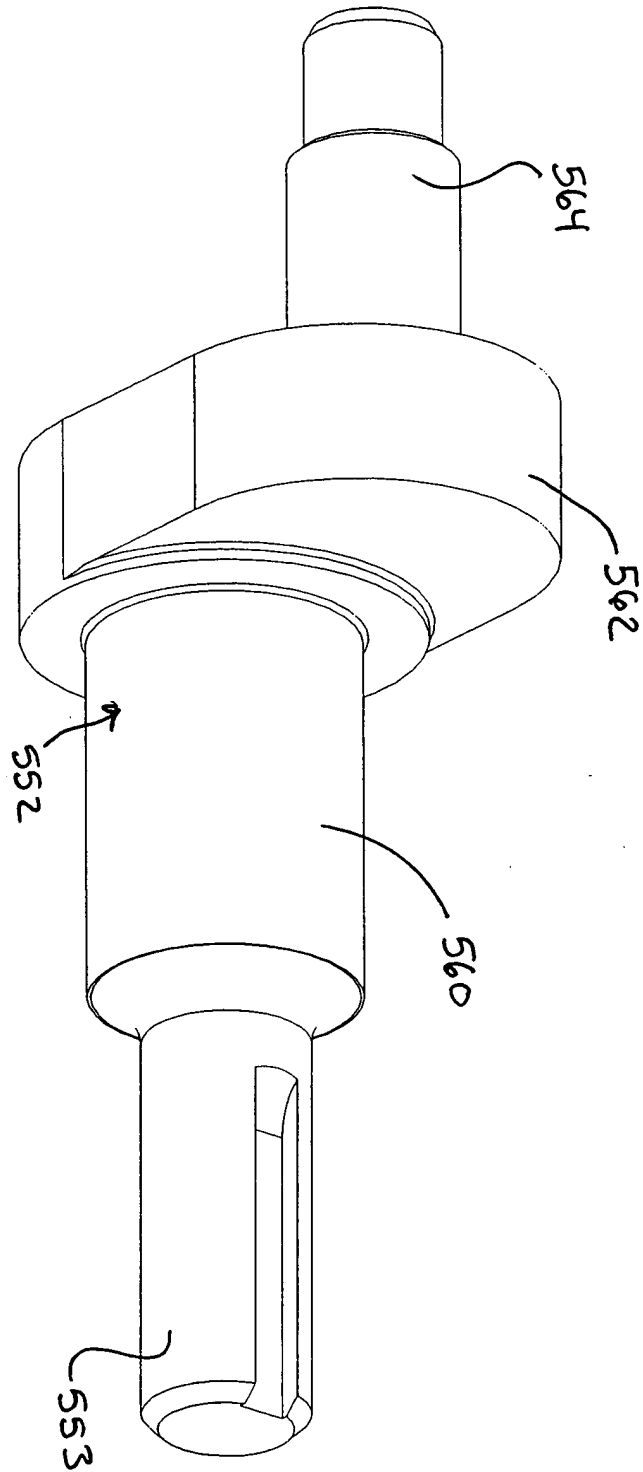
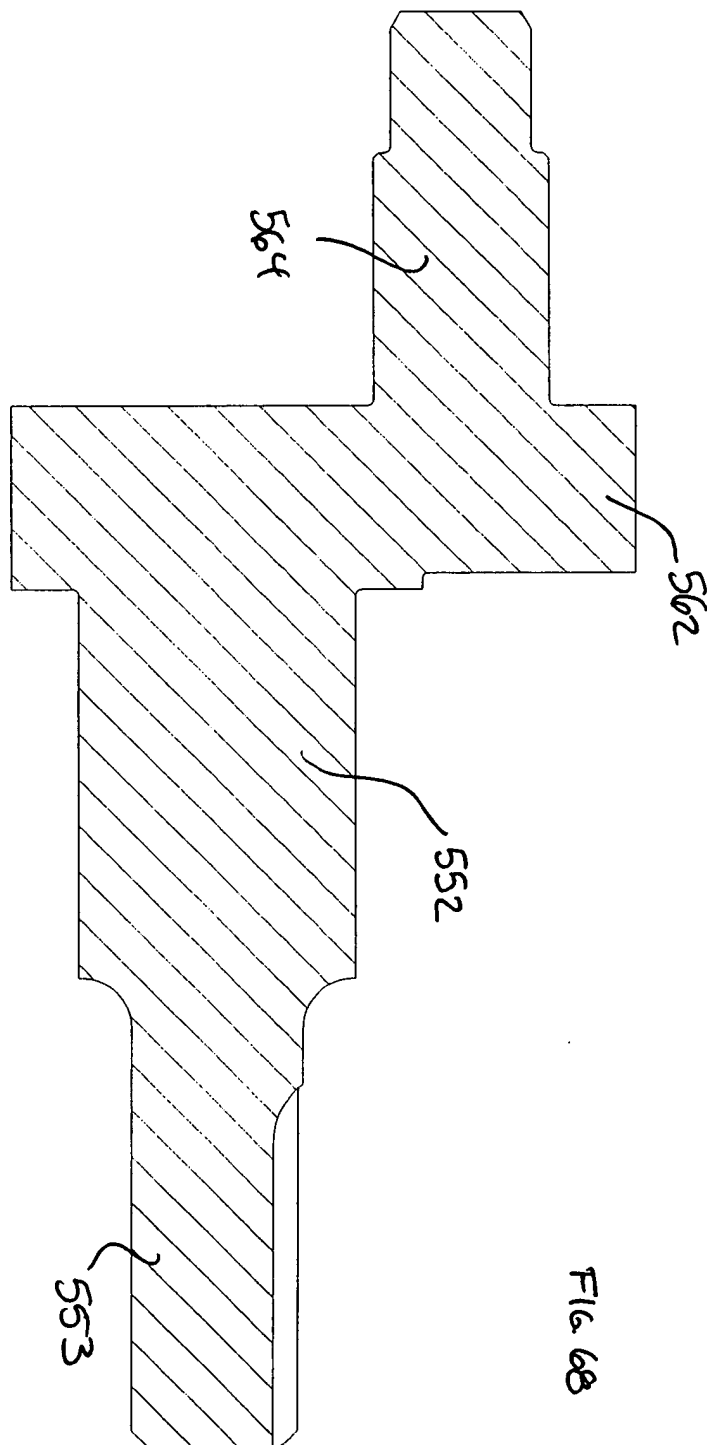


FIG. 67



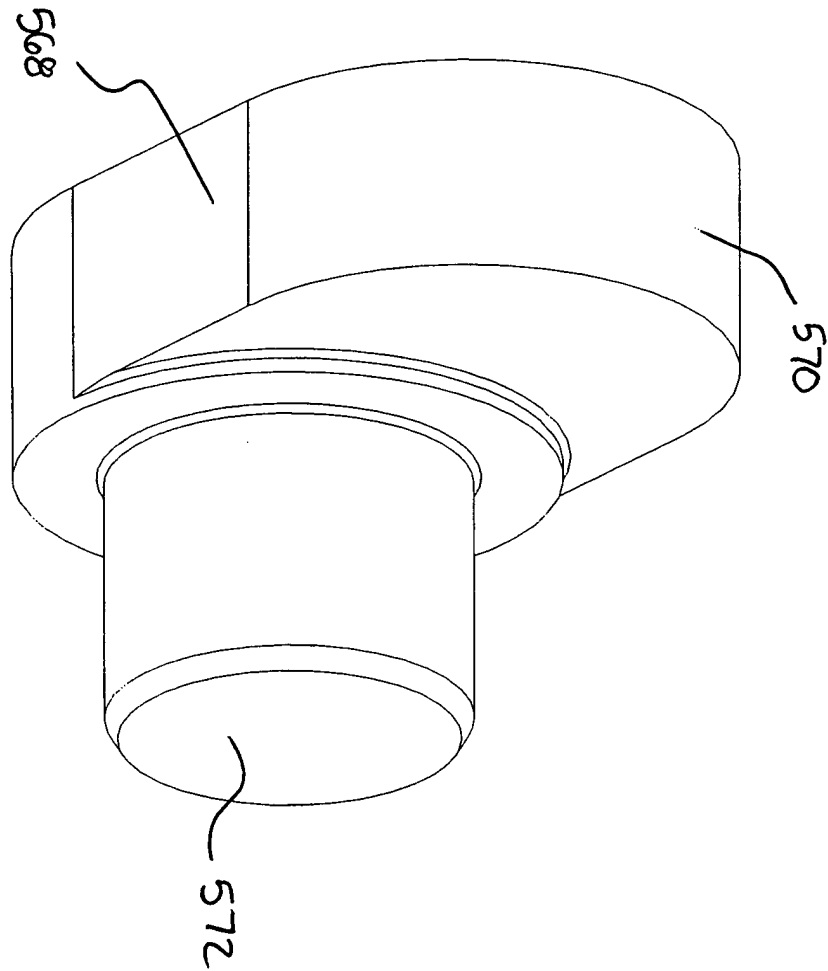


FIG. 69

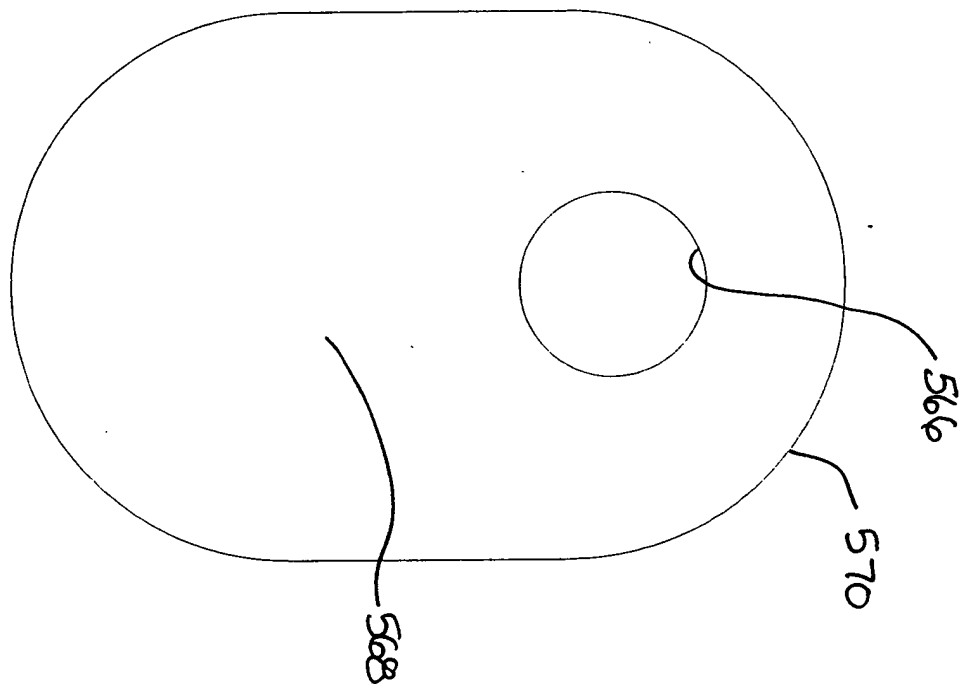


FIG. 70

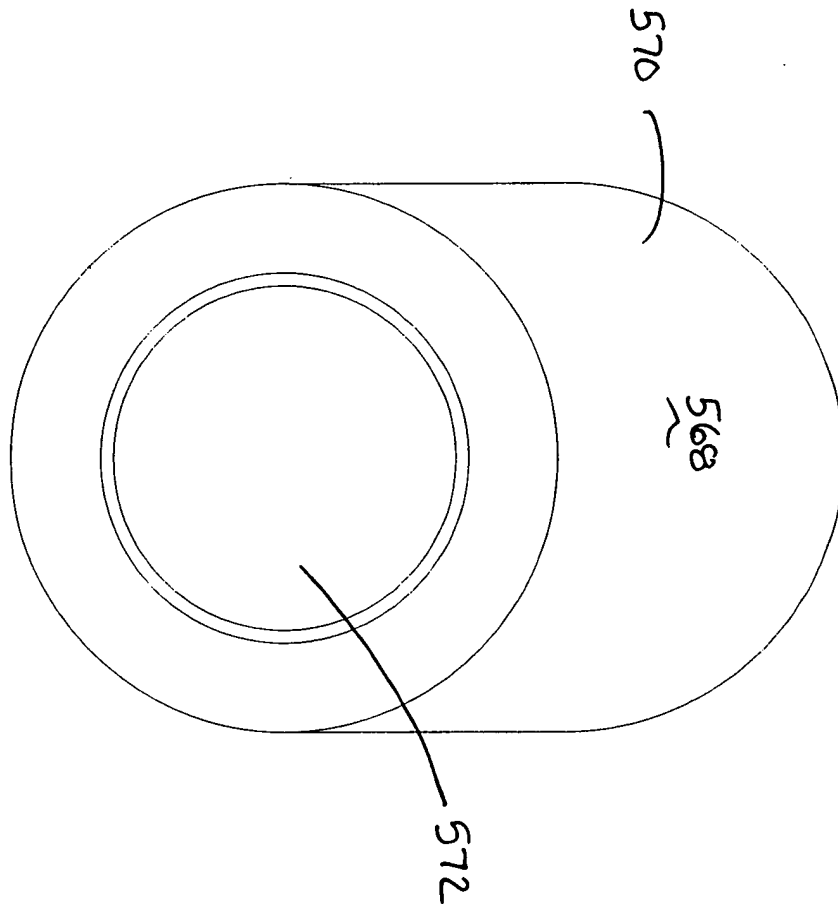
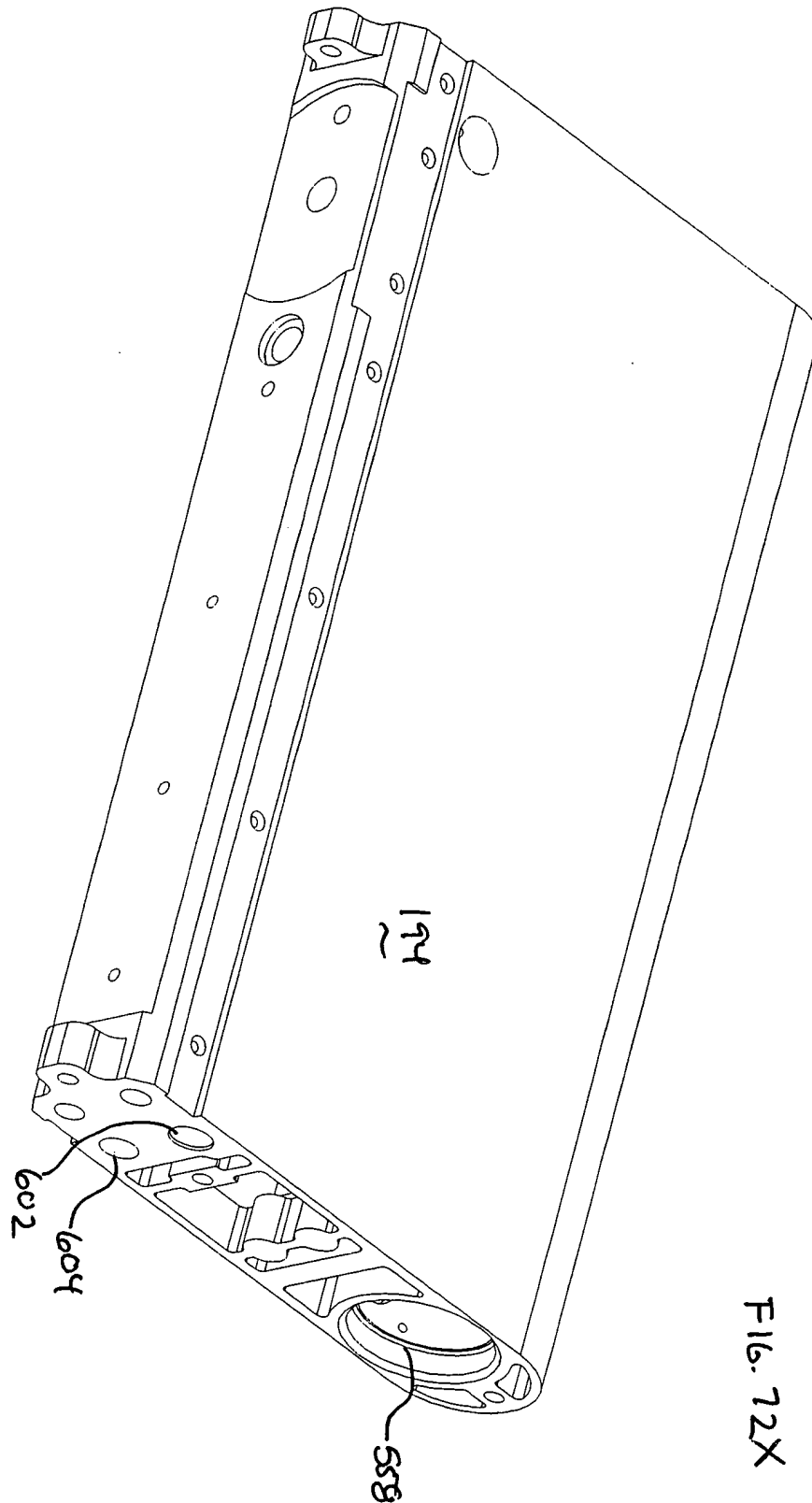
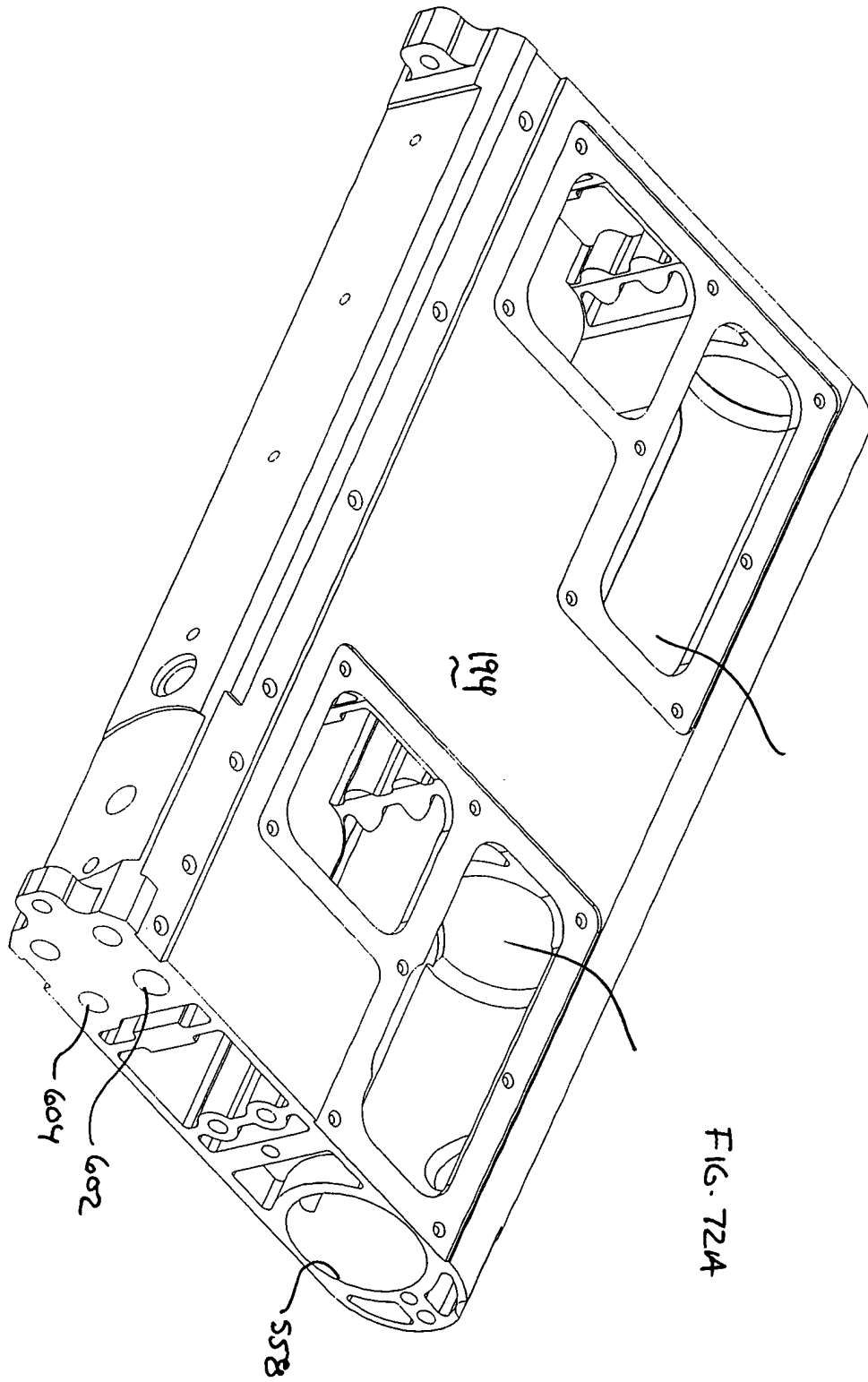
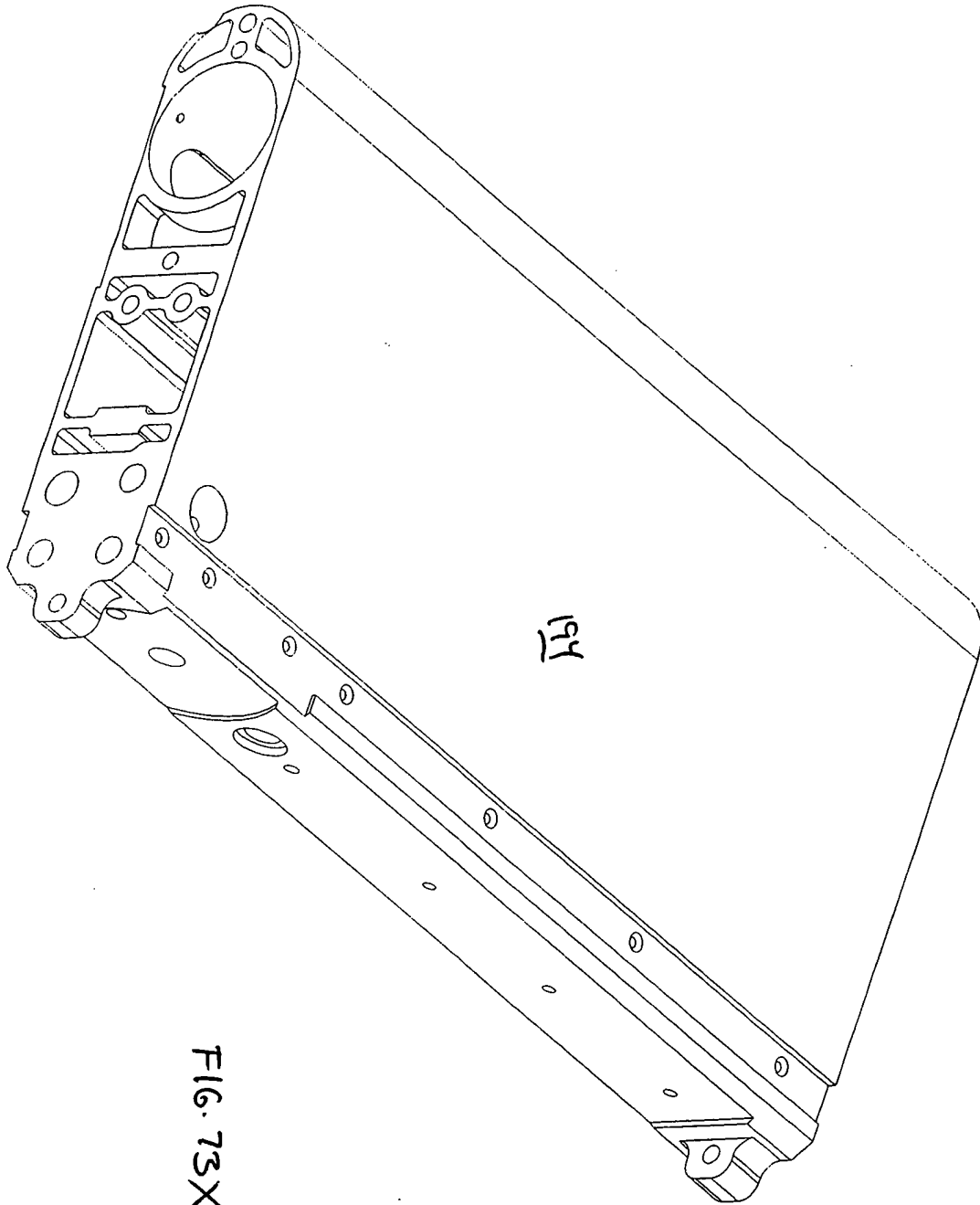


FIG. 71







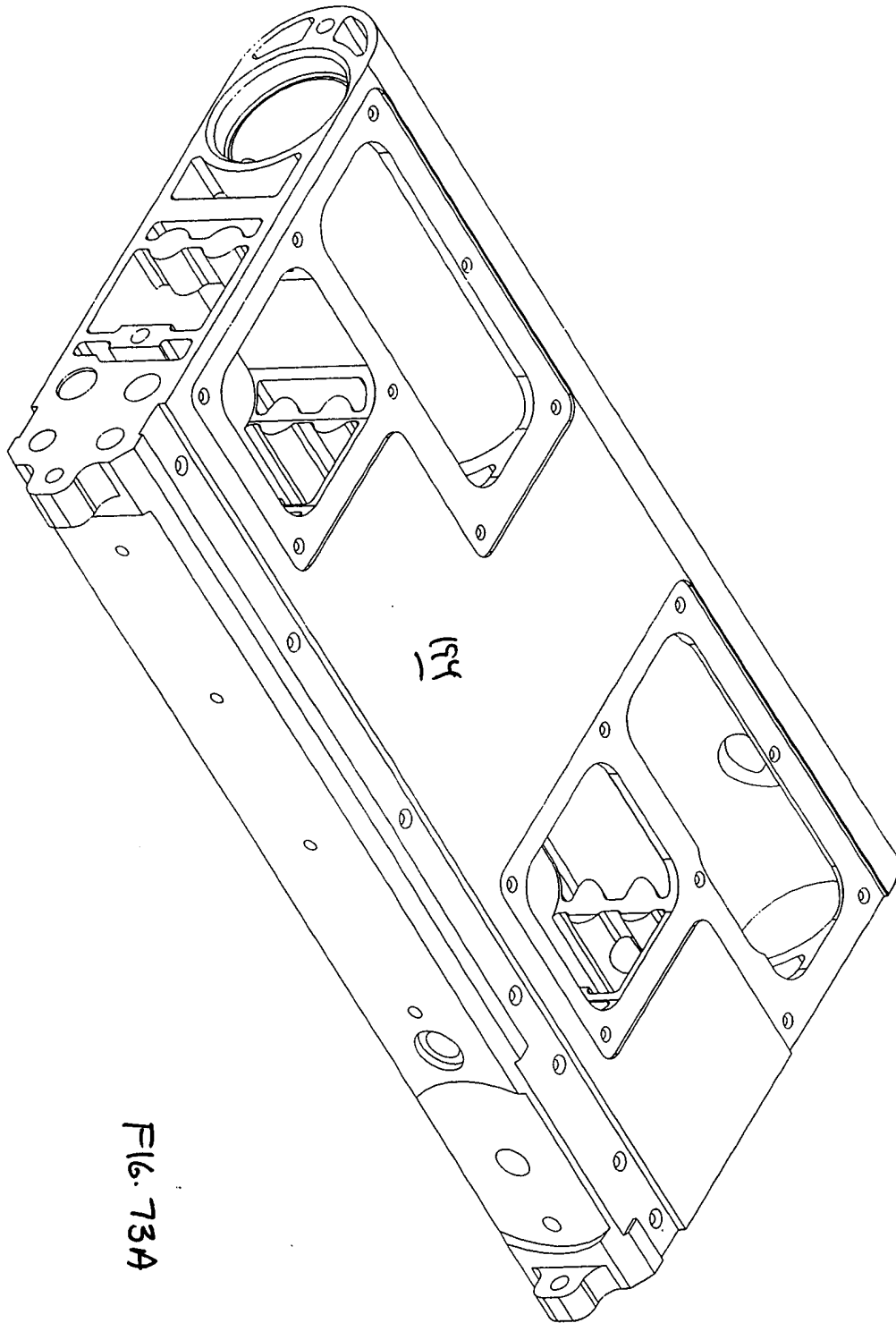
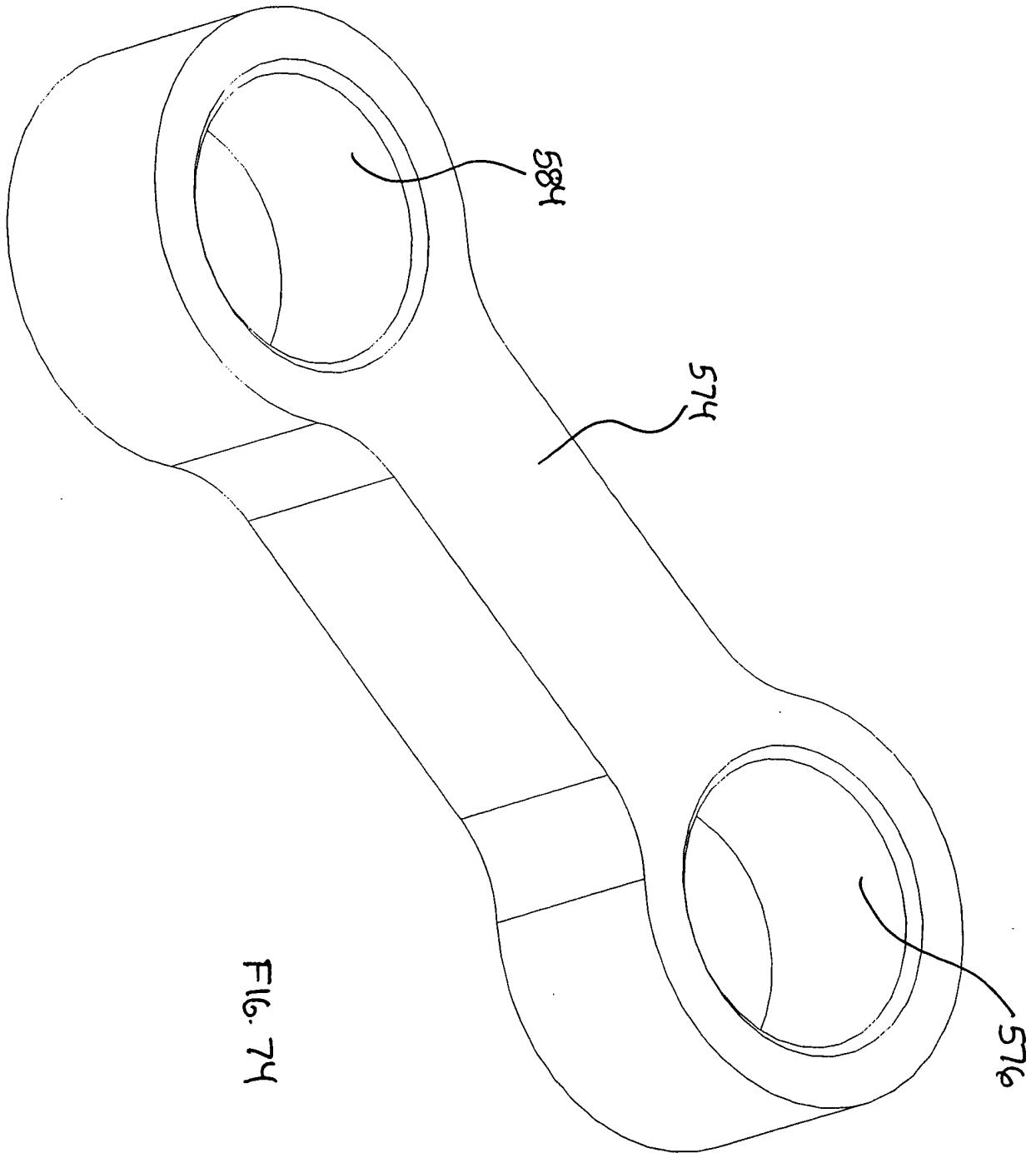


FIG. 73A



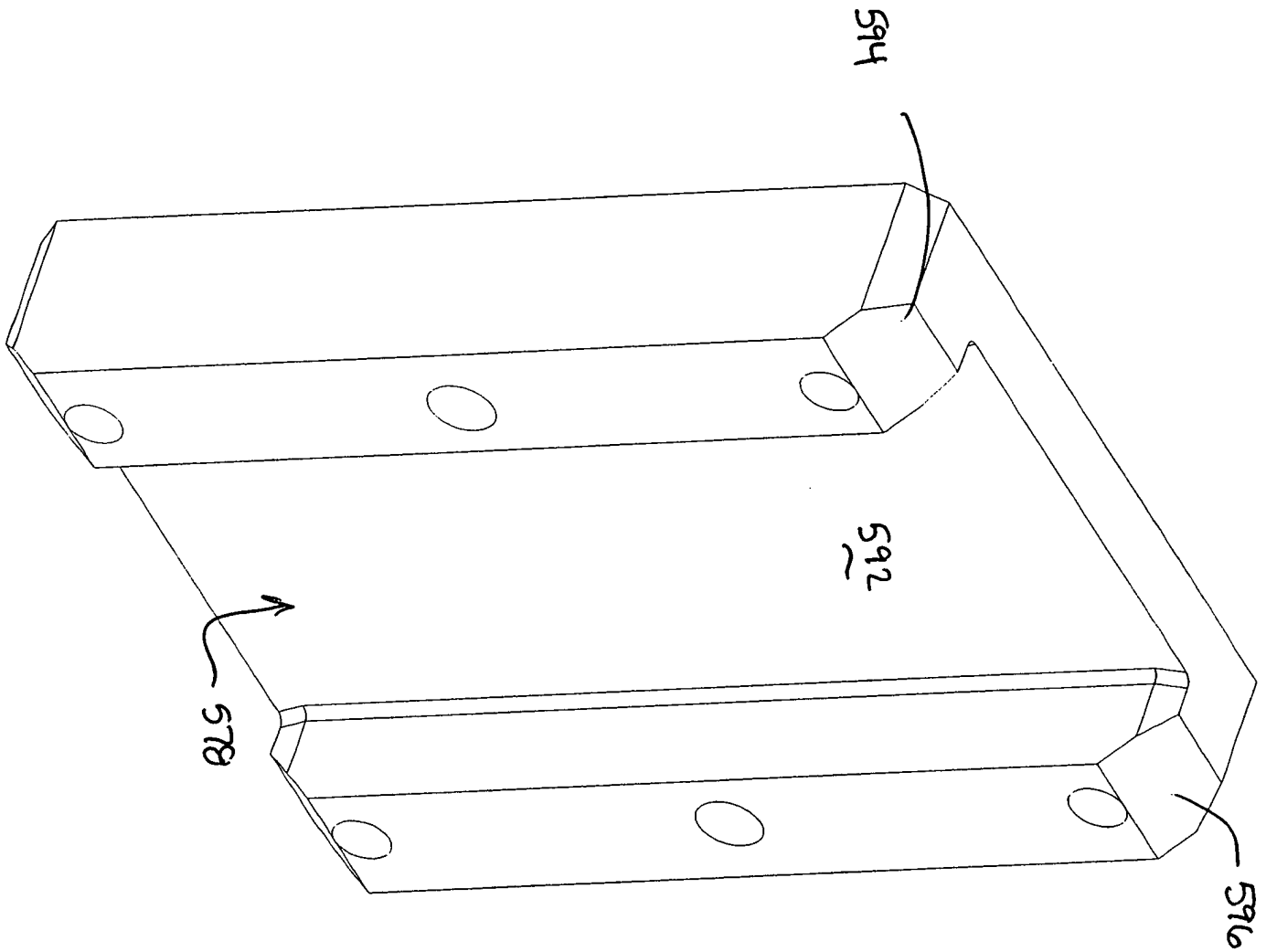


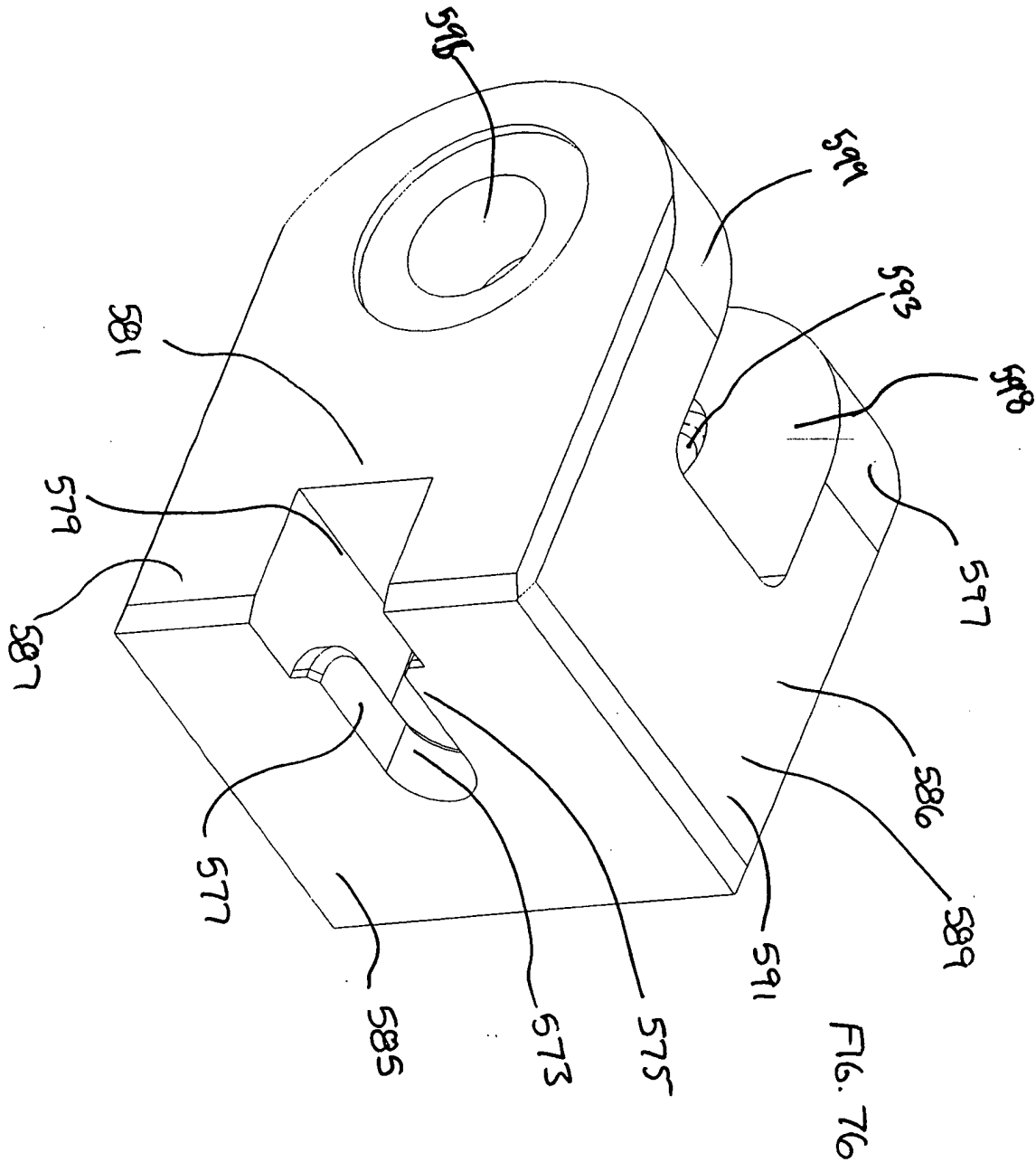
FIG 75

Inventor: George BERTRAM

Title: DISPENSING SYSTEM WITH IN LINE CHEMICAL PUMP SYSTEM

Attorney Docket No.: 034017R004

REPLACEMENT SHEET



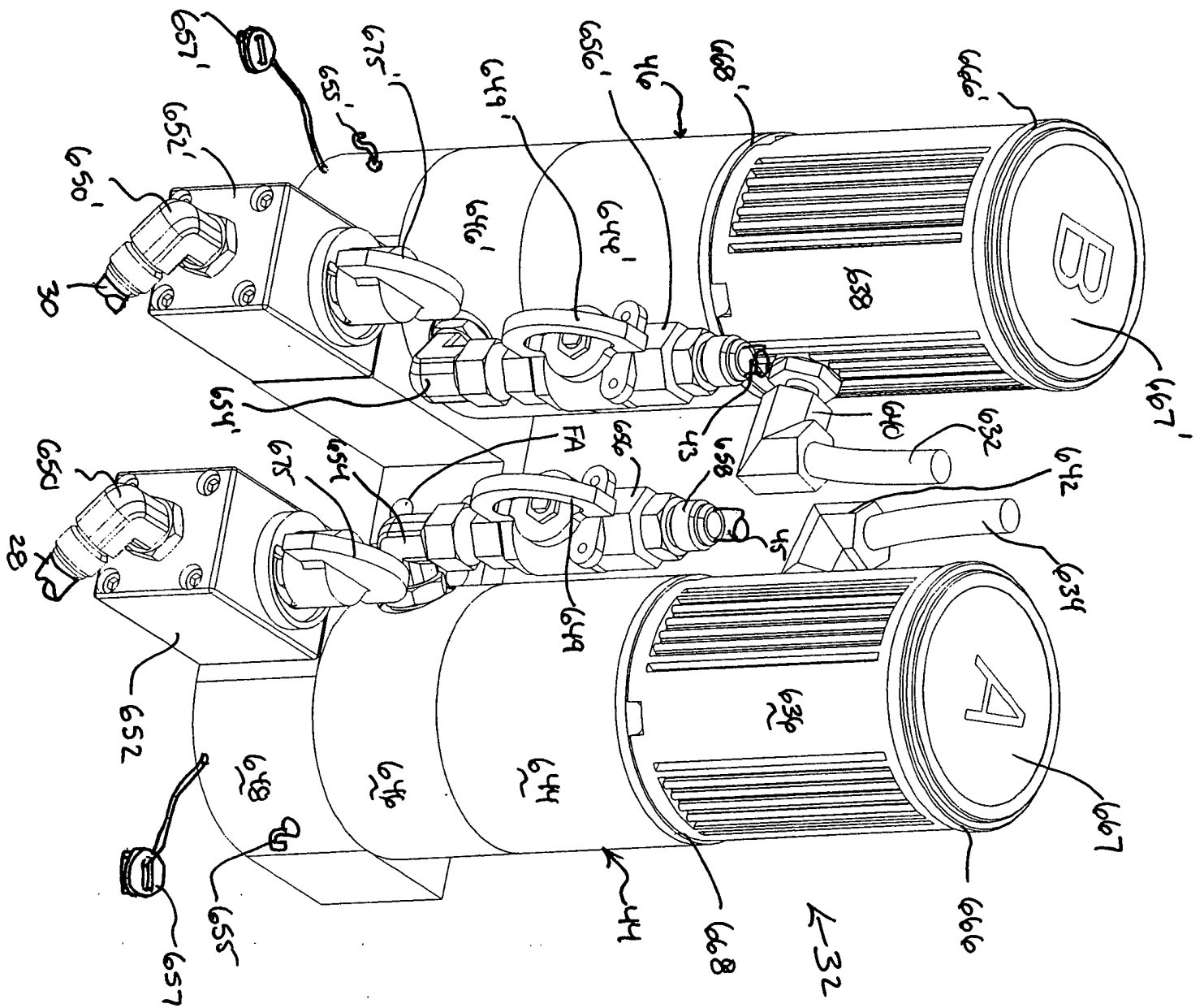
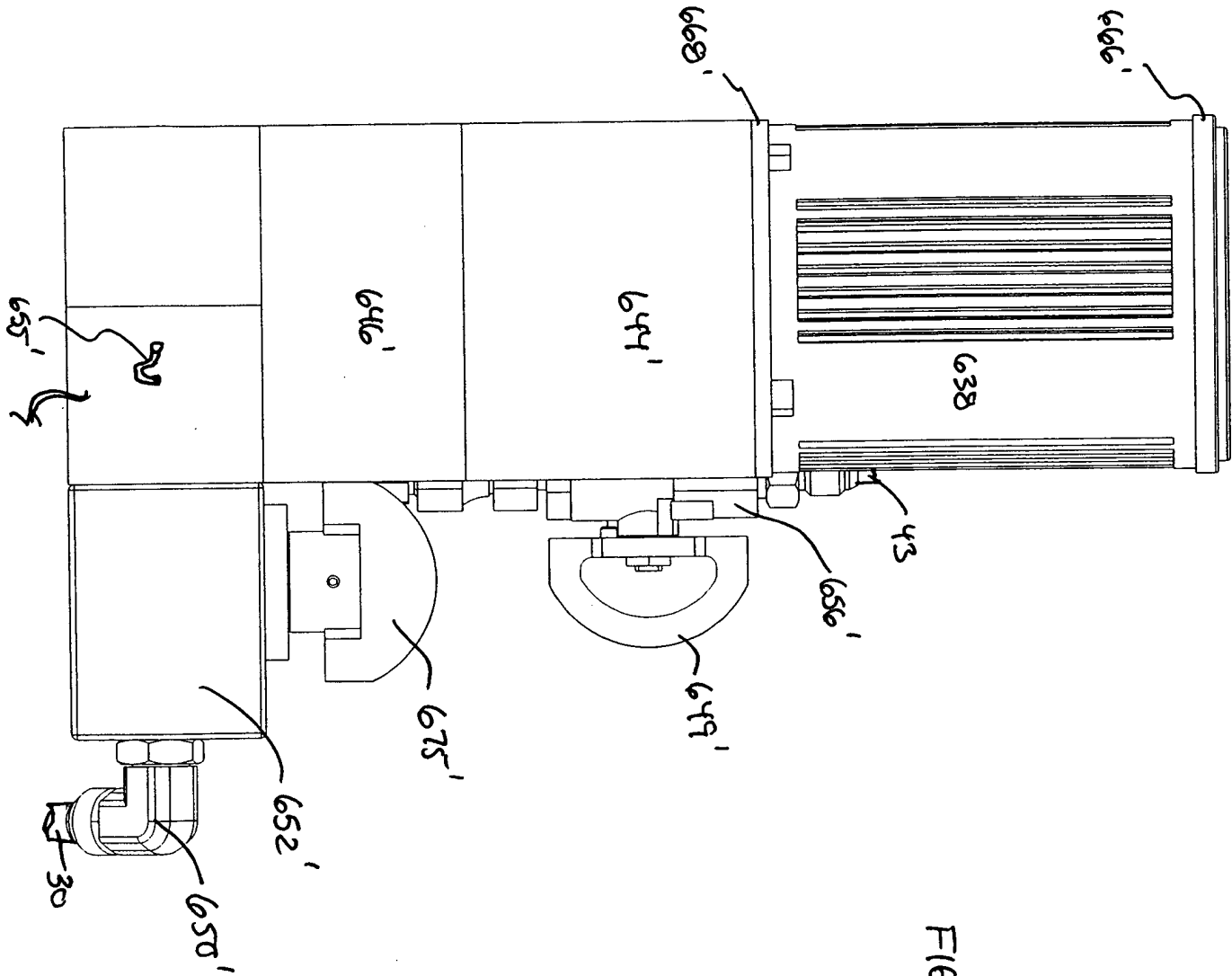
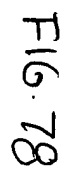


FIG. 77X





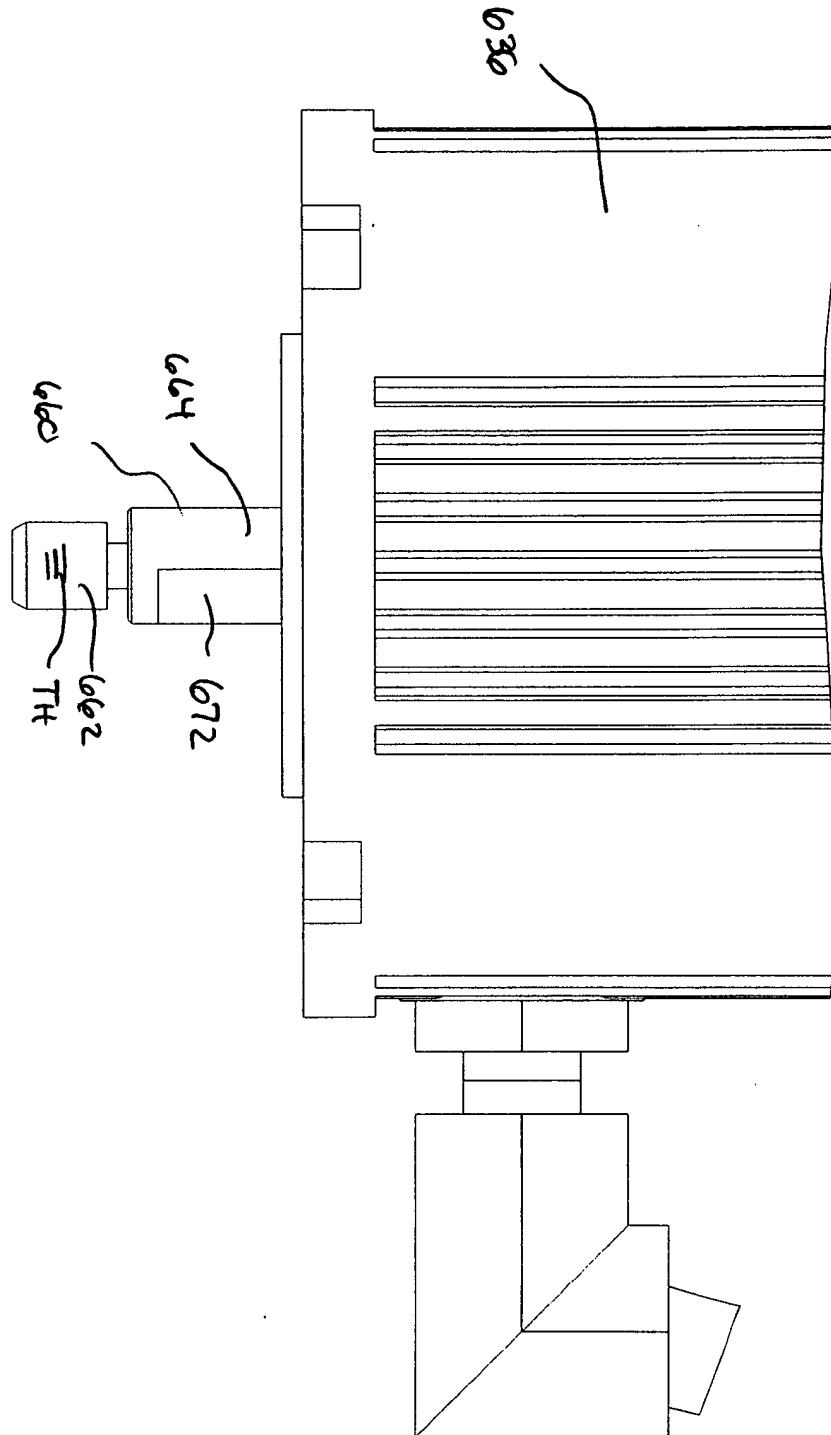


FIG. 29

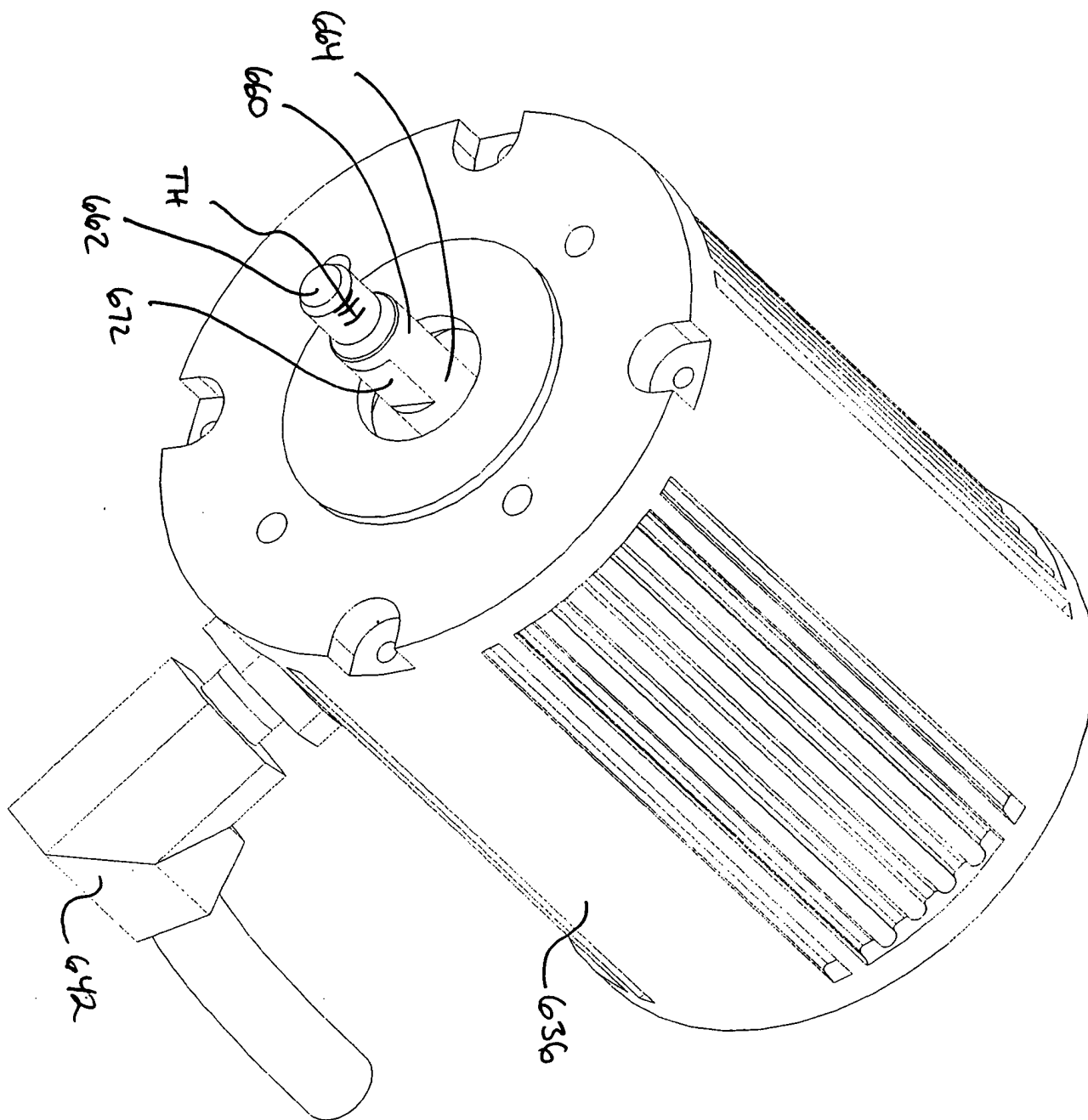


FIG. 80

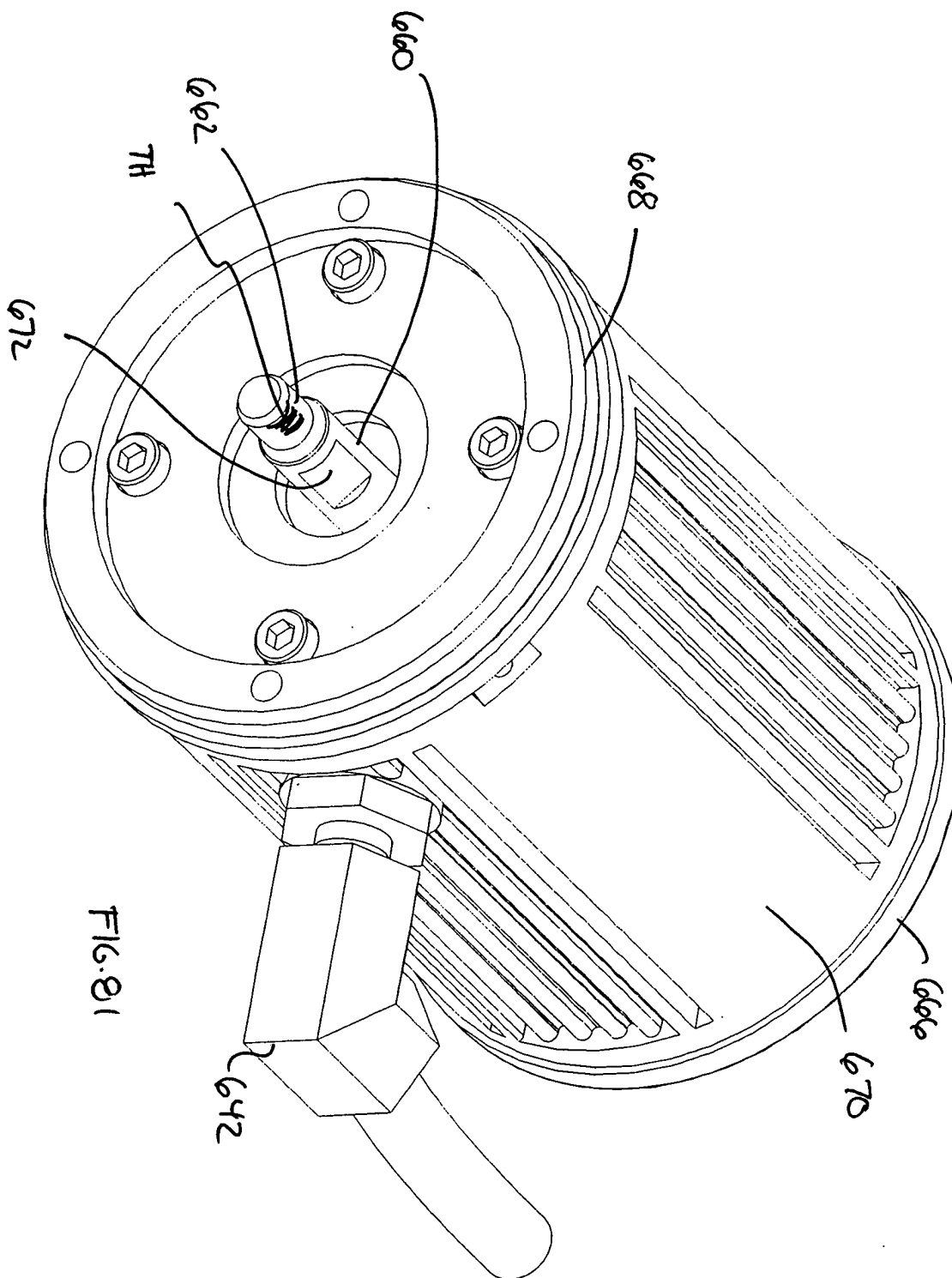


FIG. 81

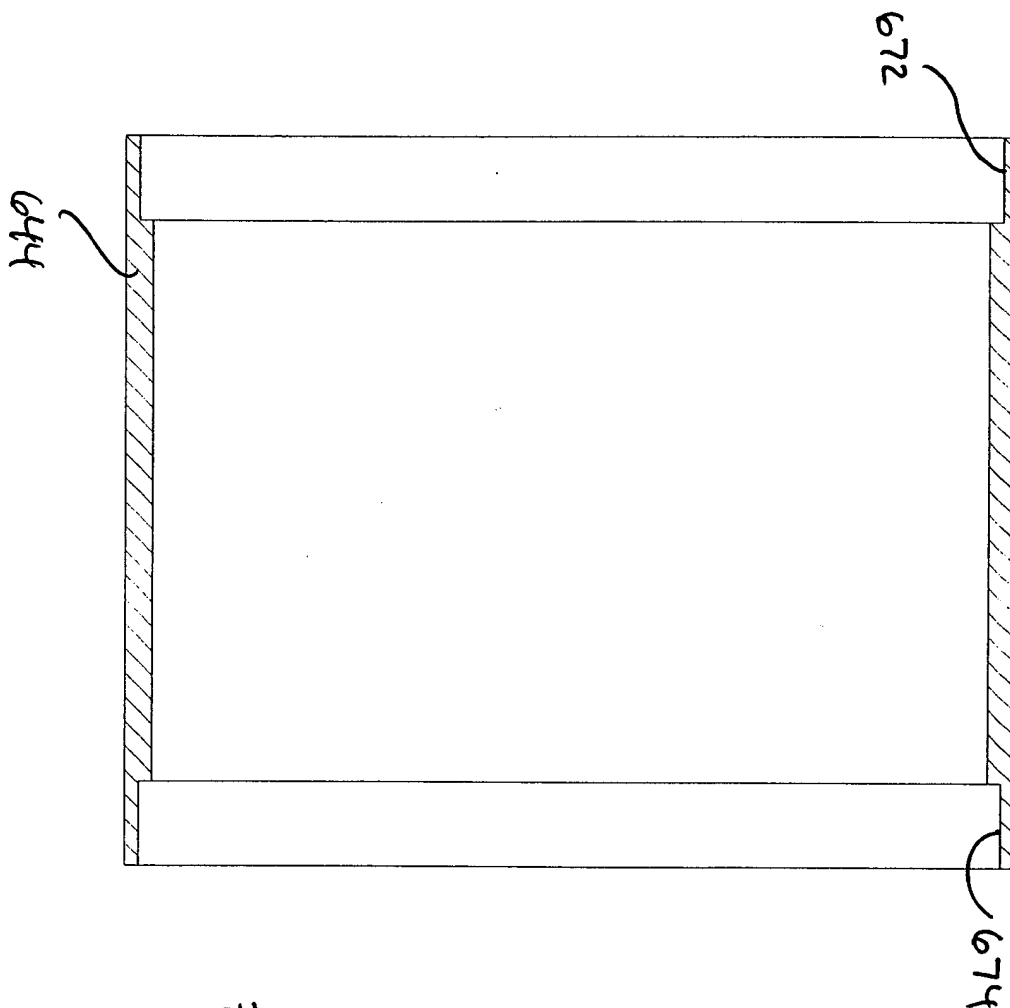
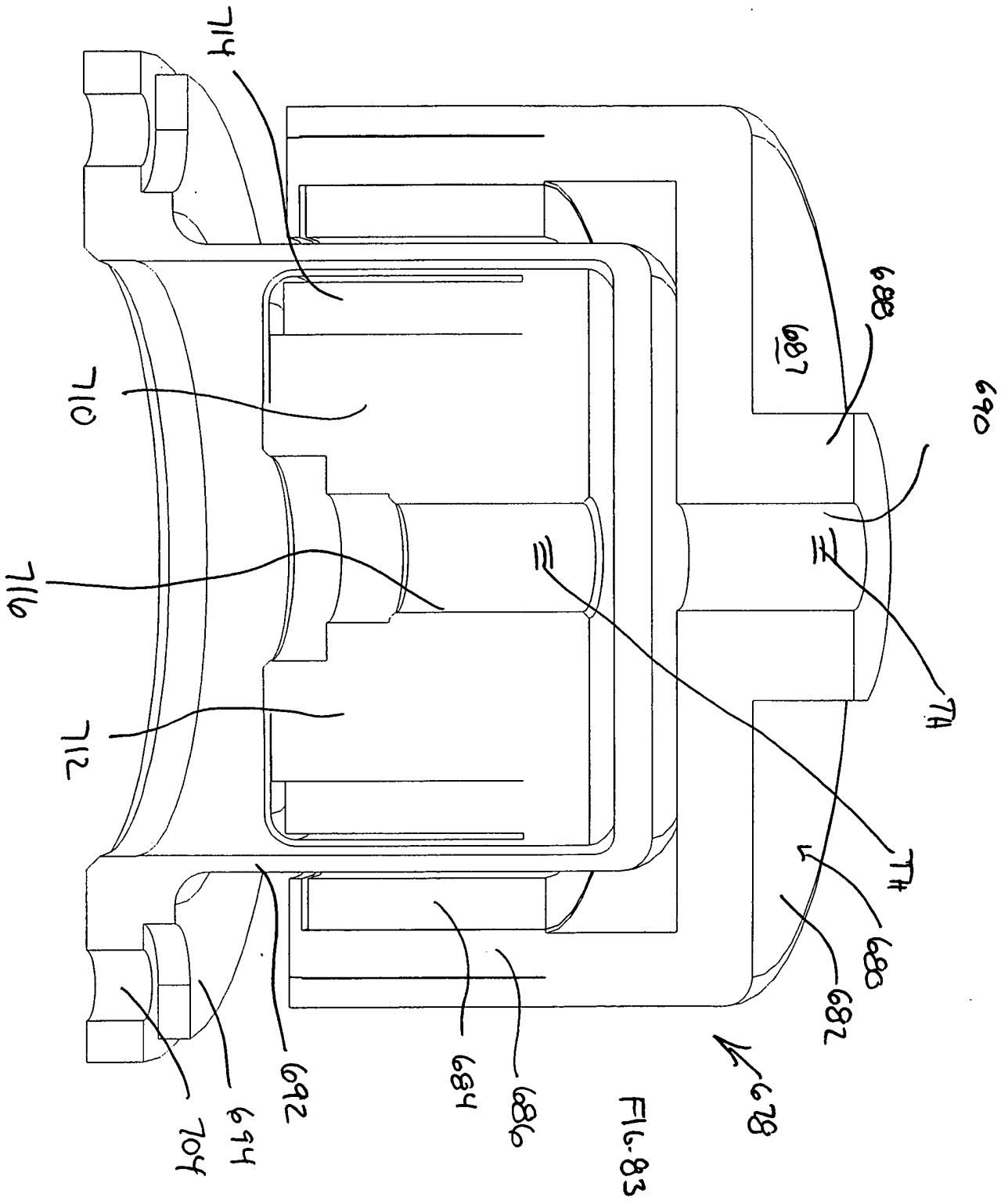


FIG. 82



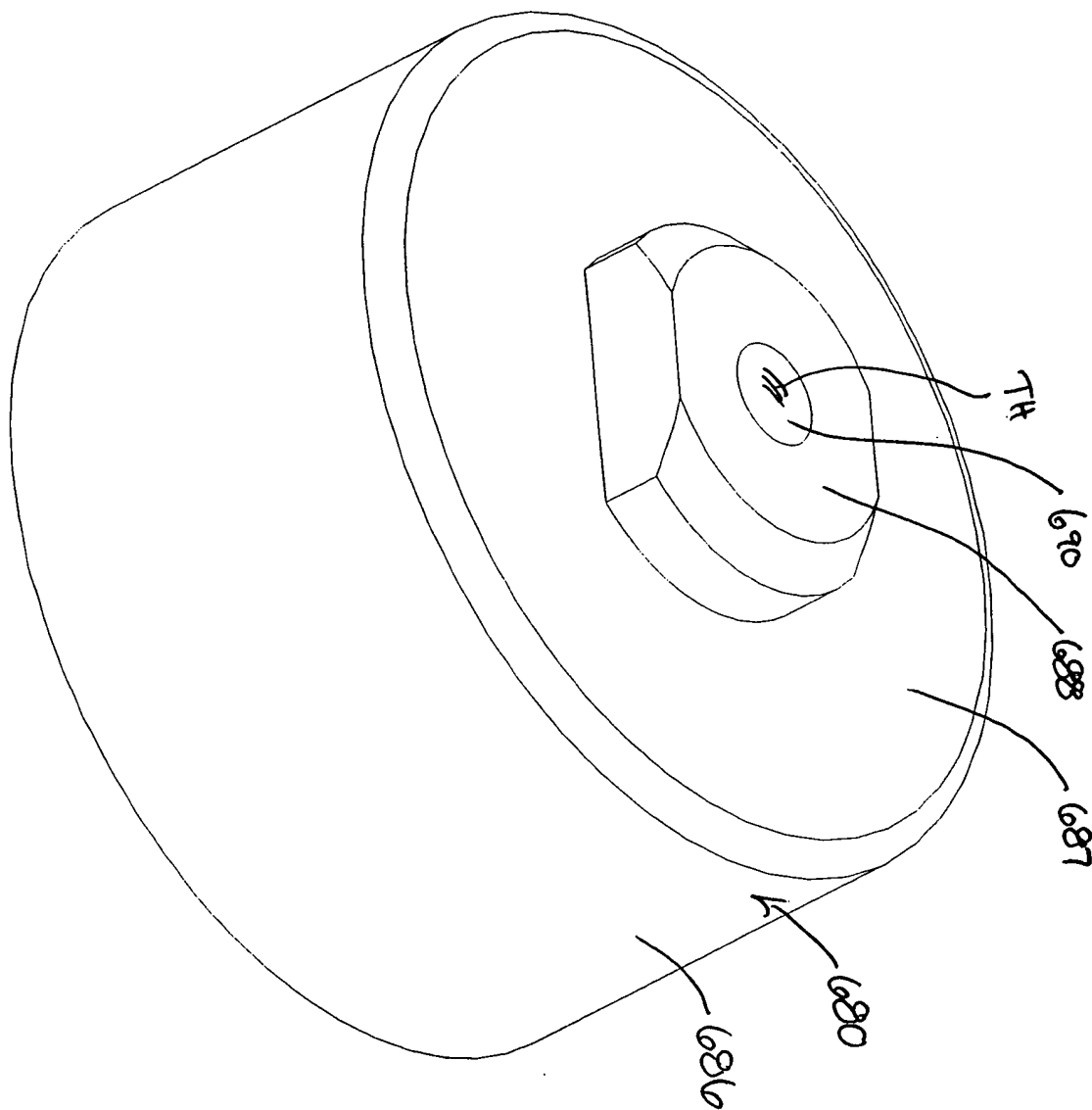
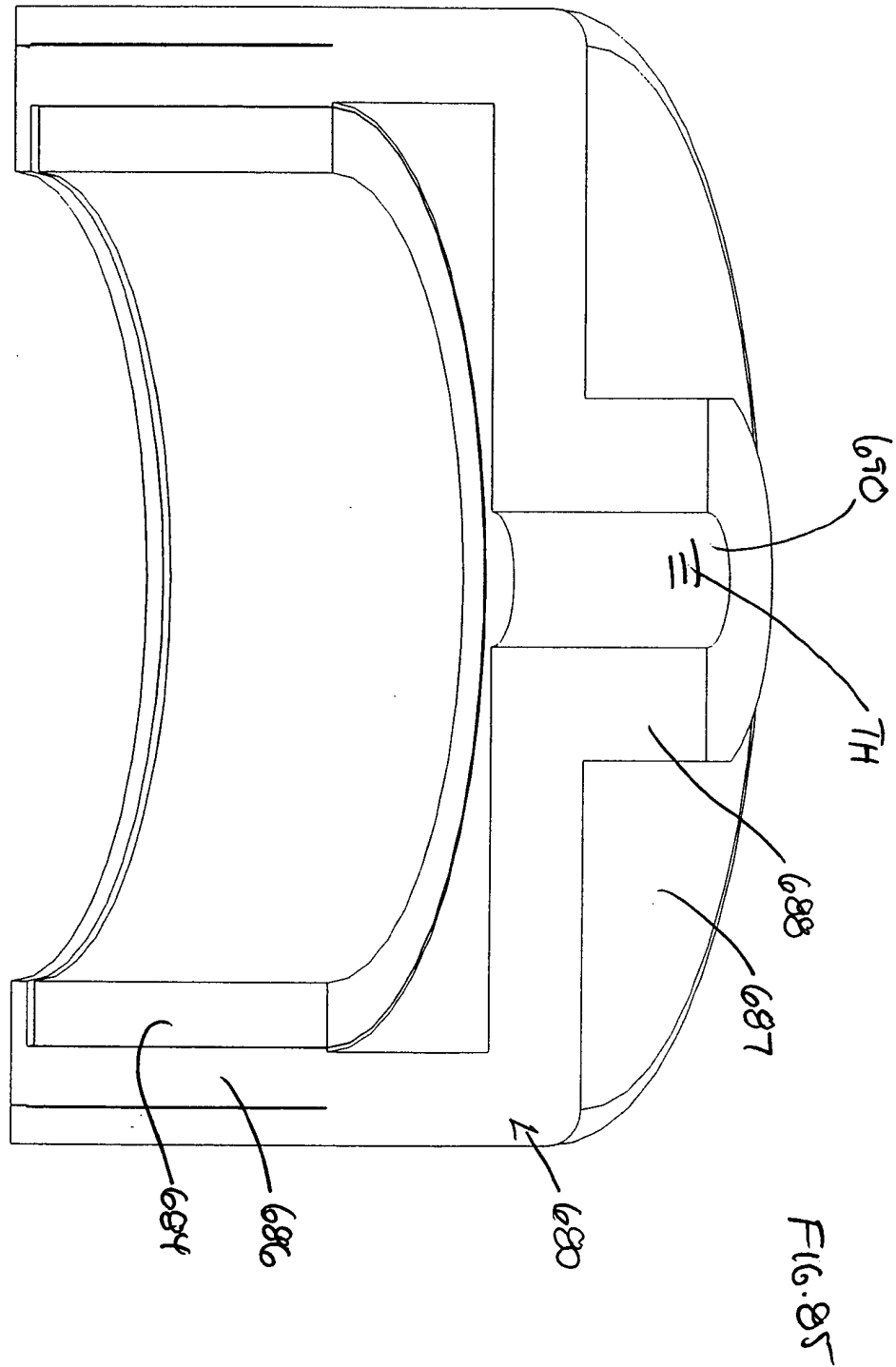


FIG. 84



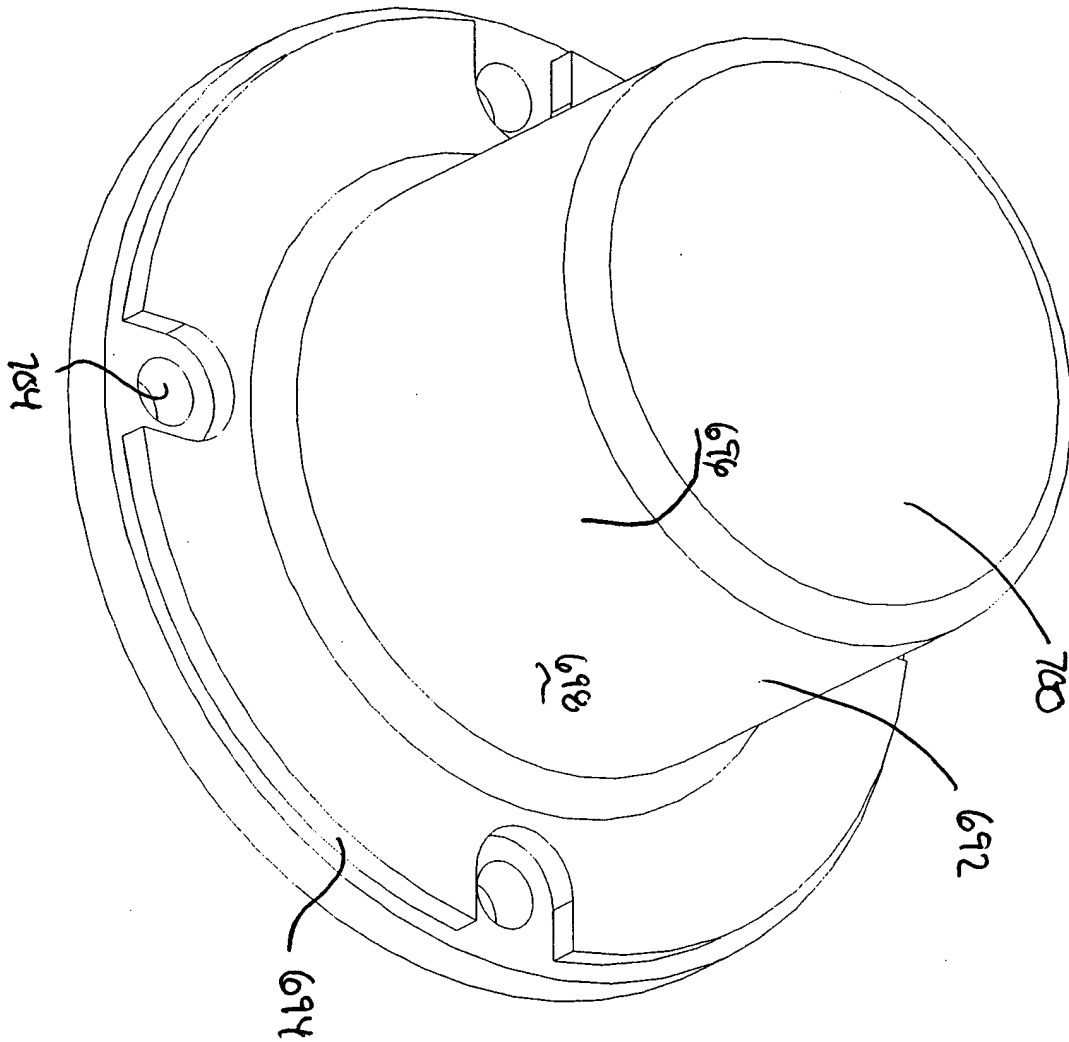


FIG. 86

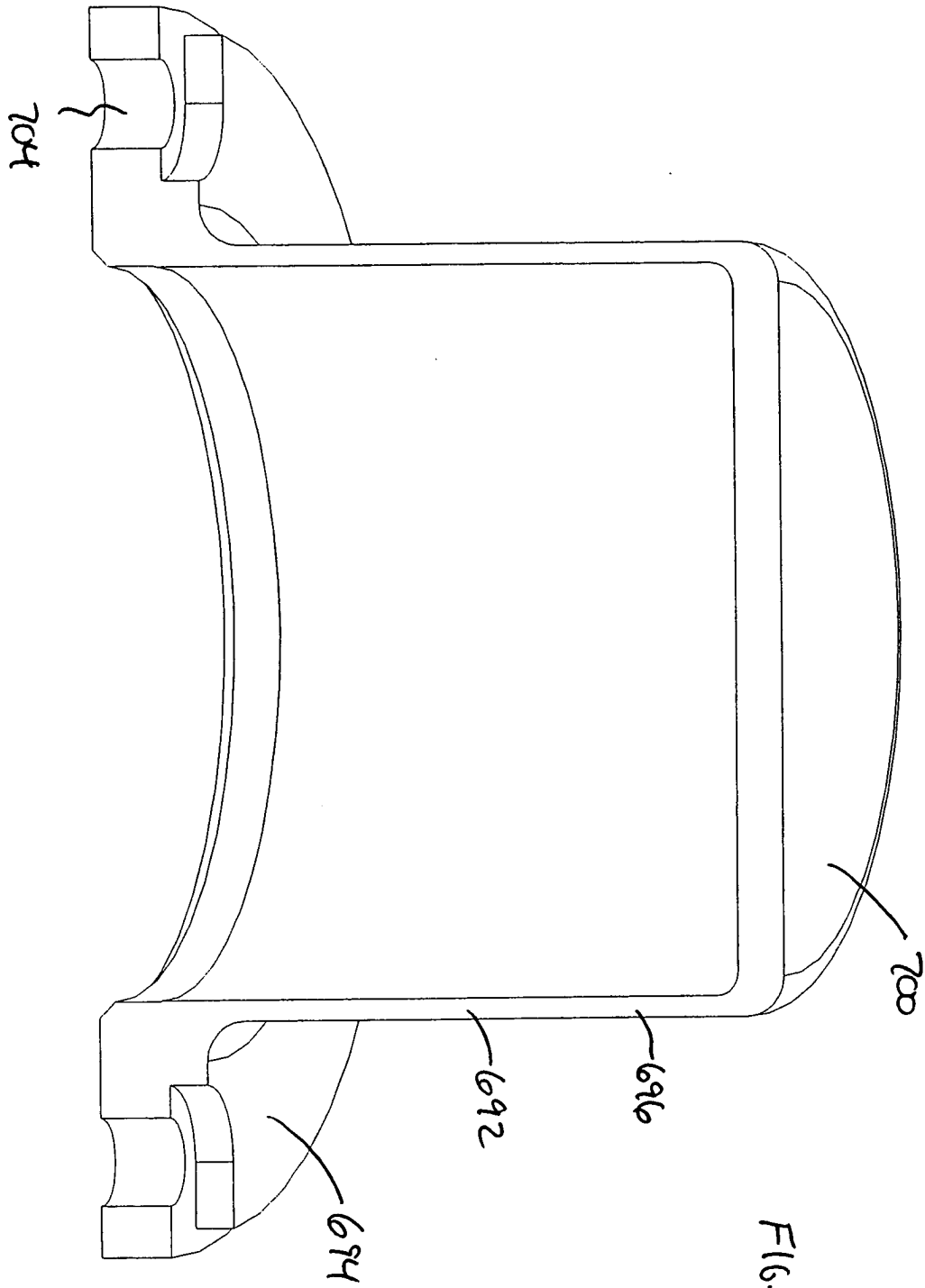
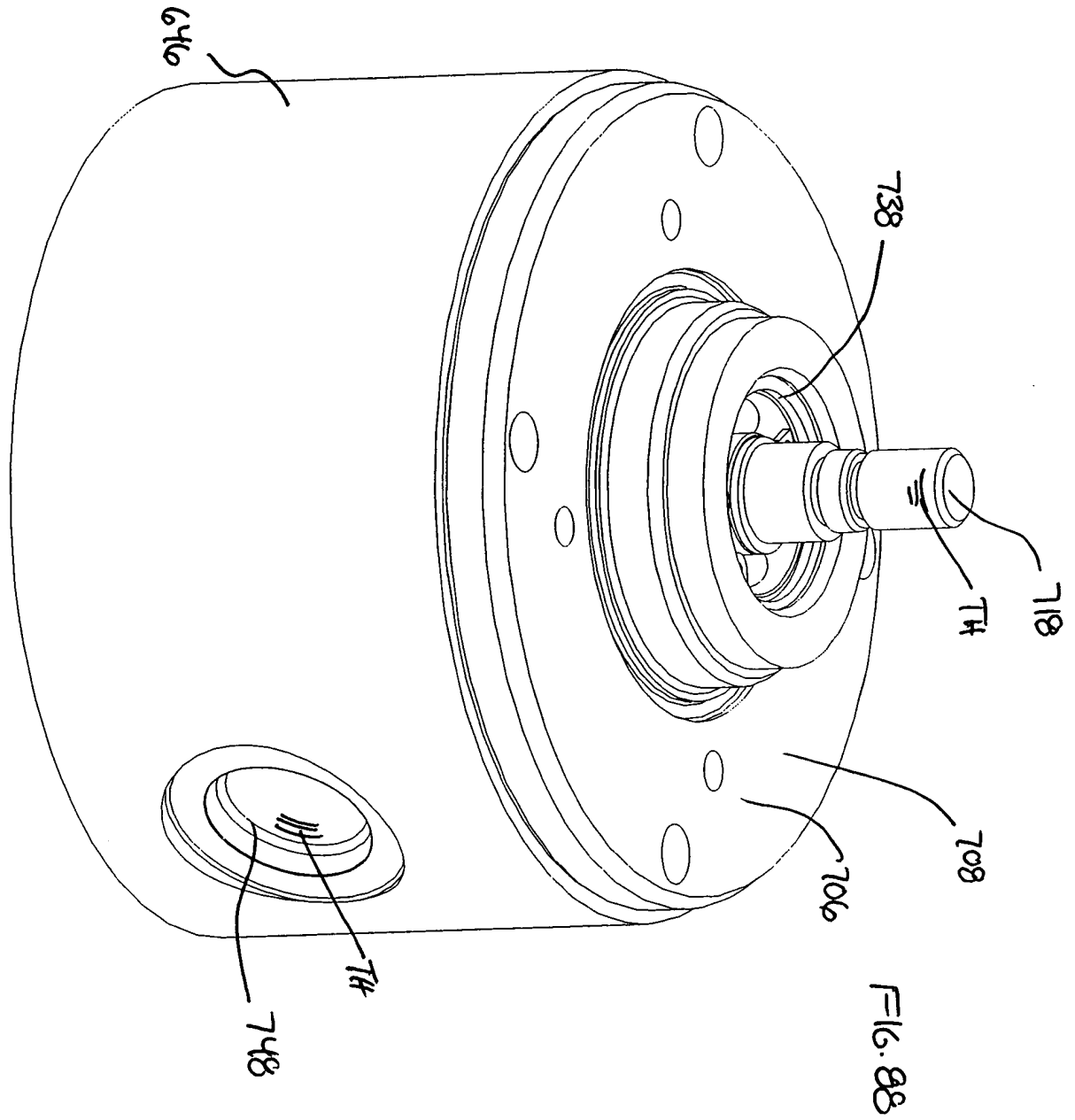


FIG. 87



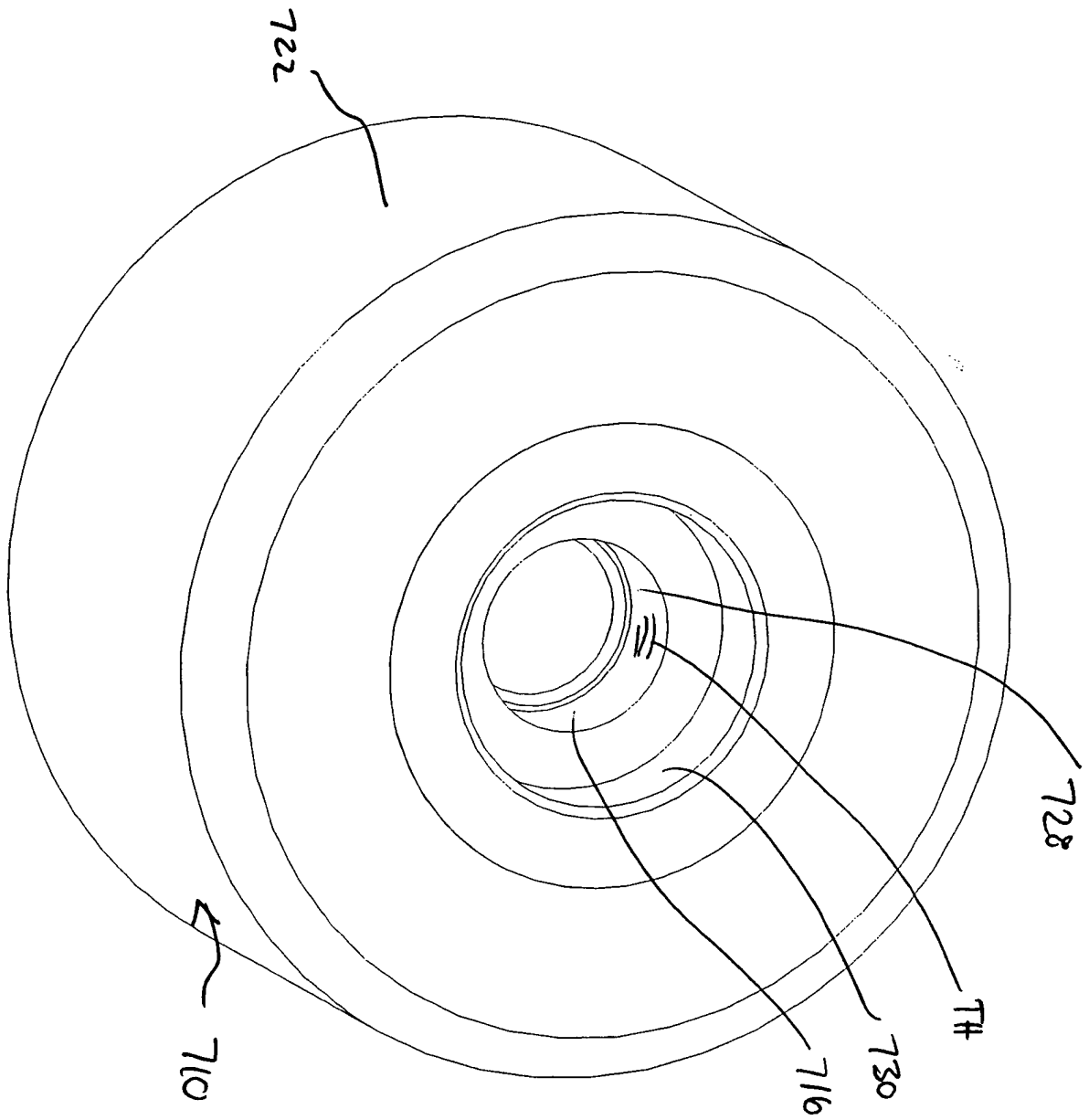
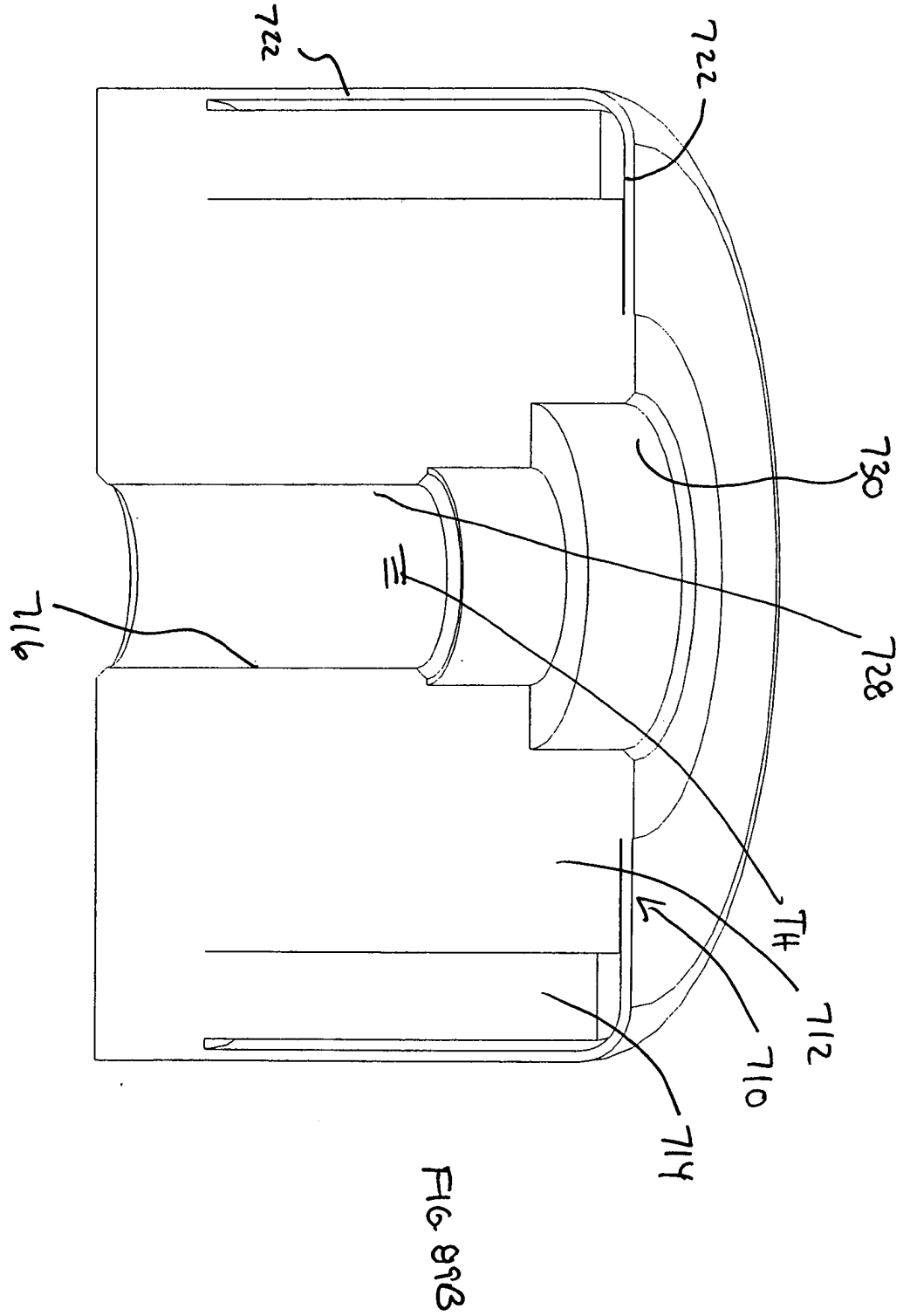


FIG. 89A



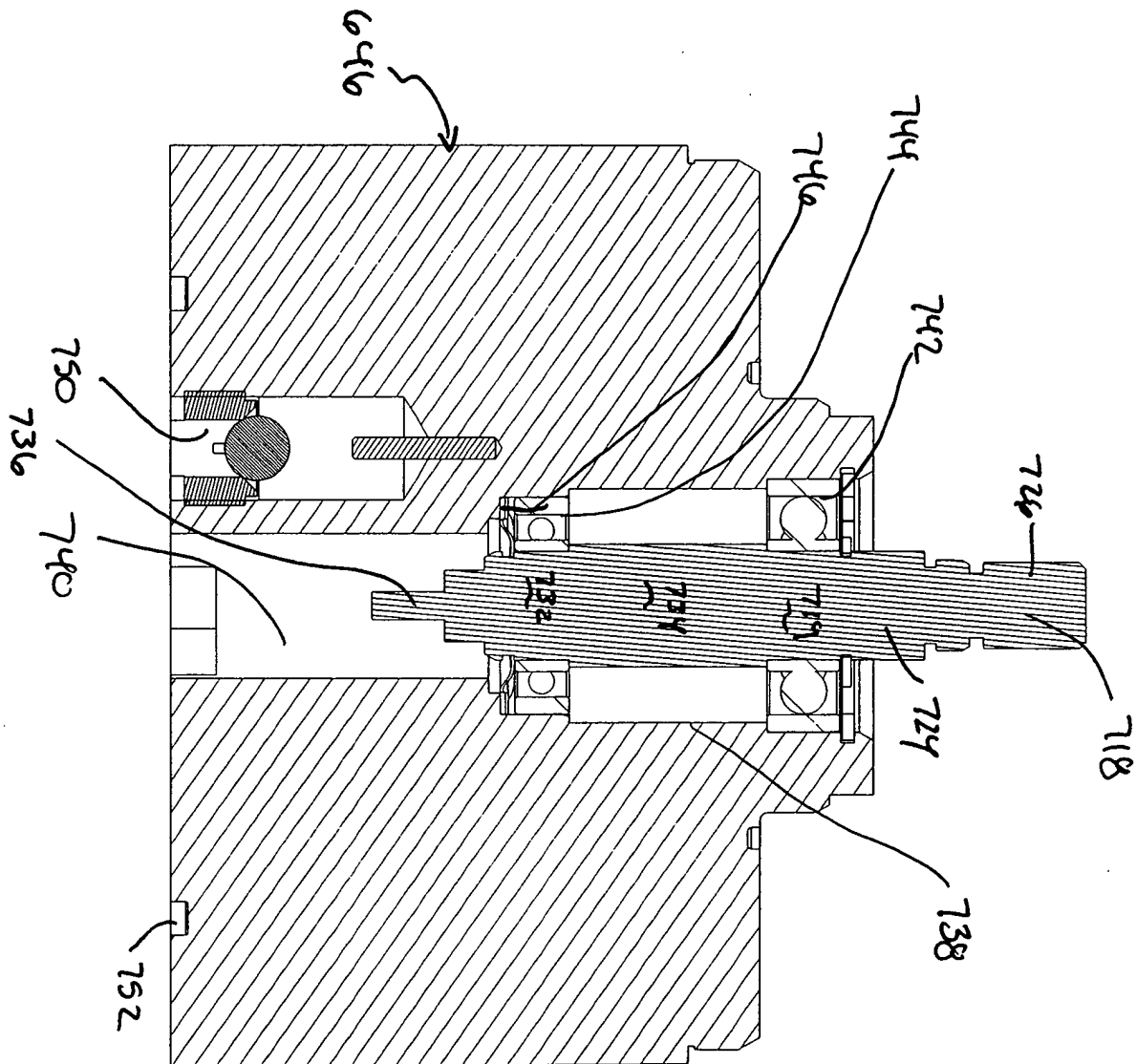


FIG. 90

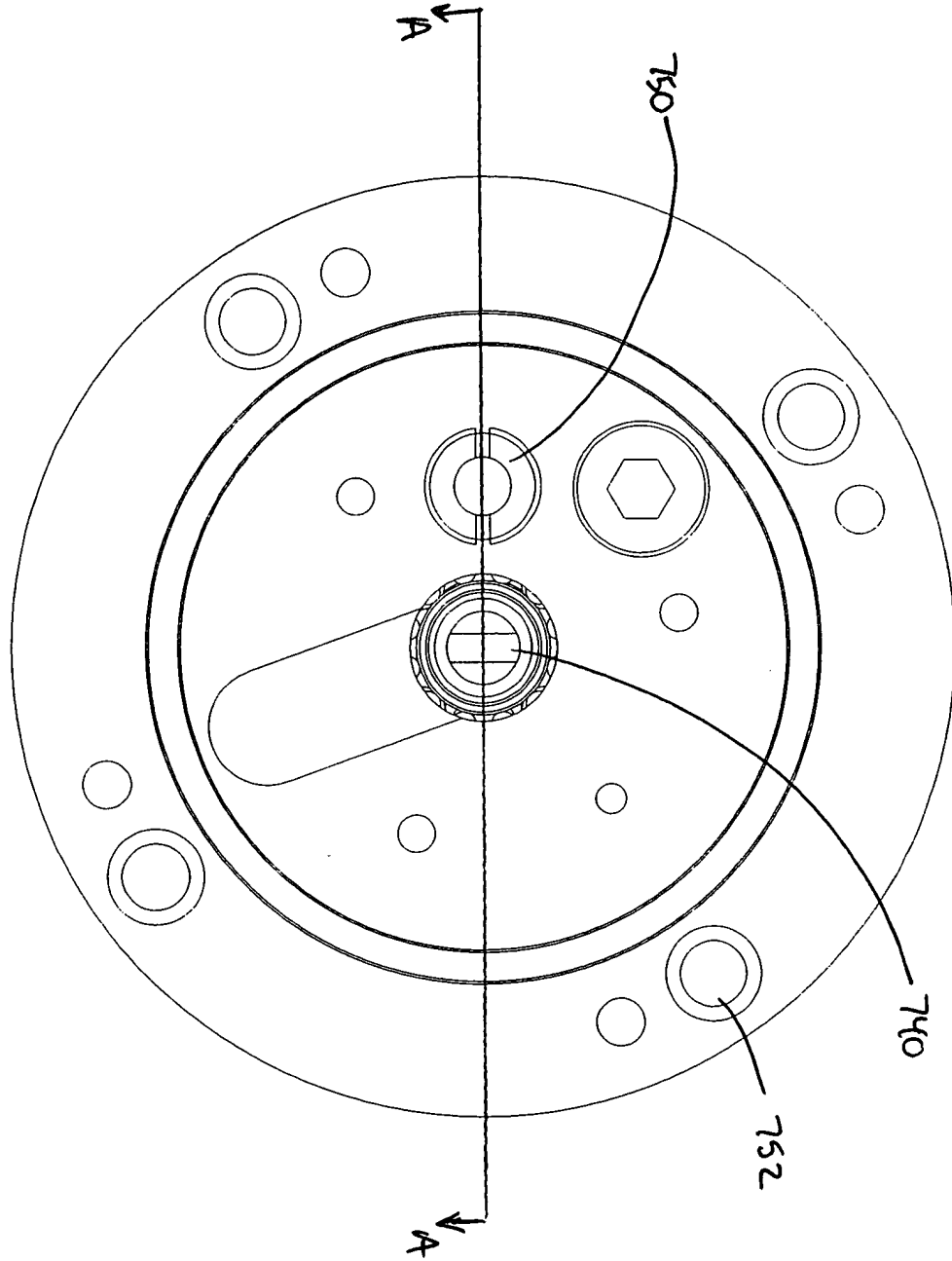


FIG. 91

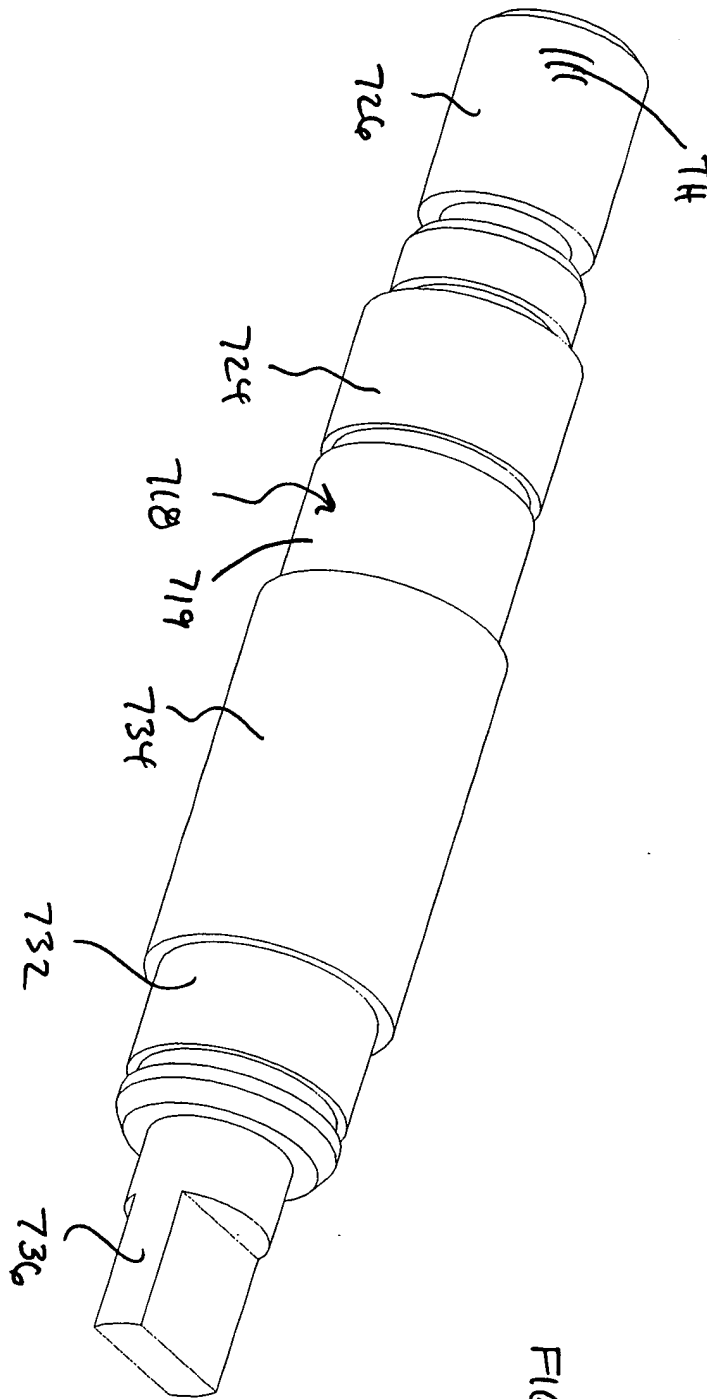


FIG. 92

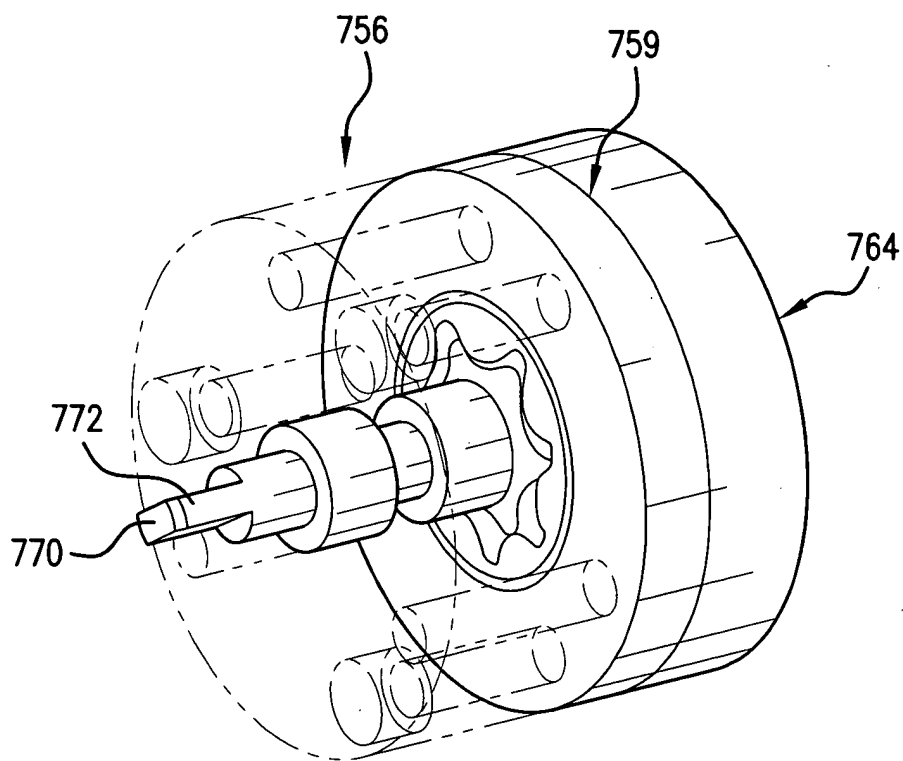


FIG. 93X

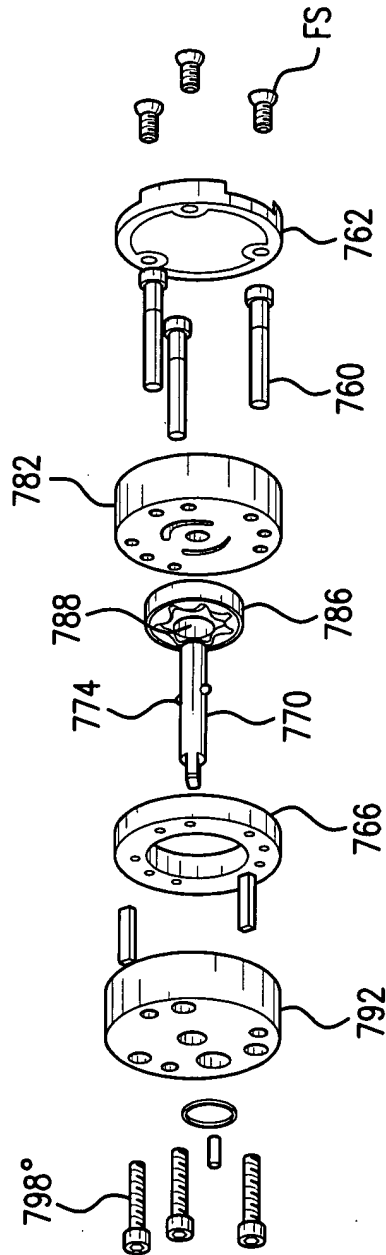


FIG. 93A

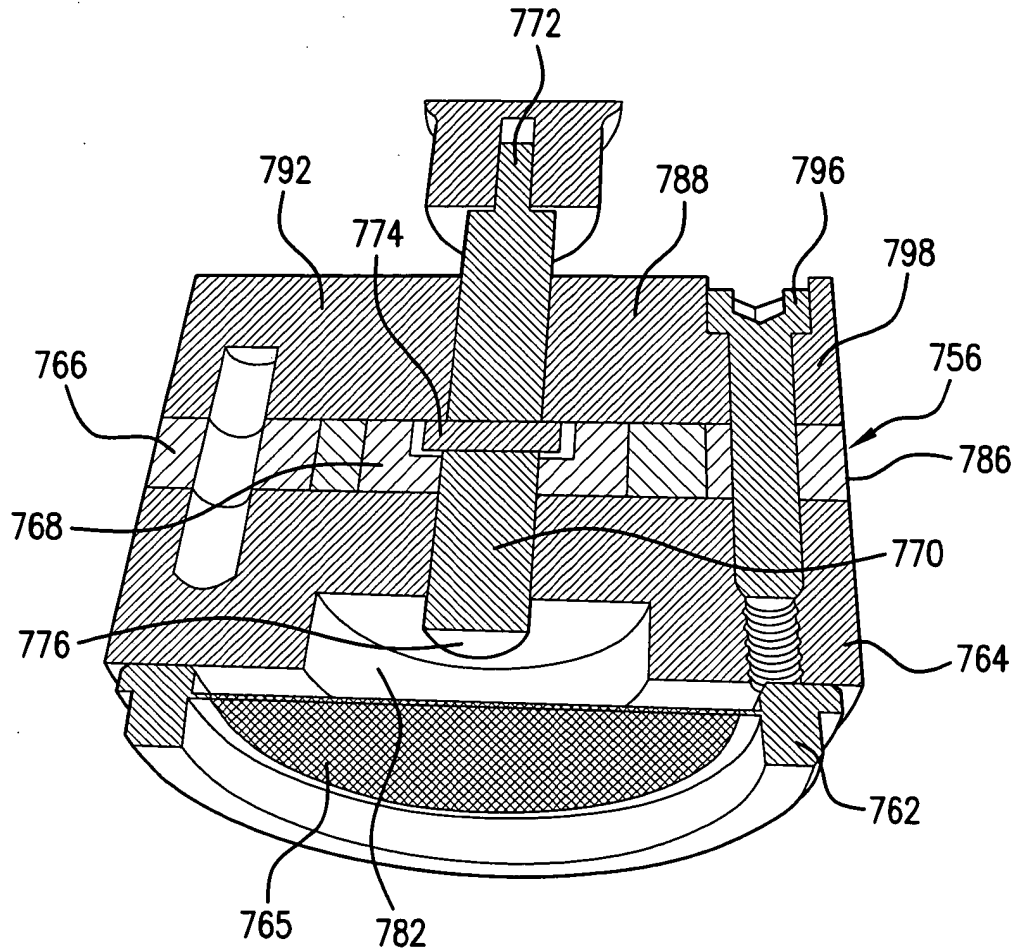


FIG.94

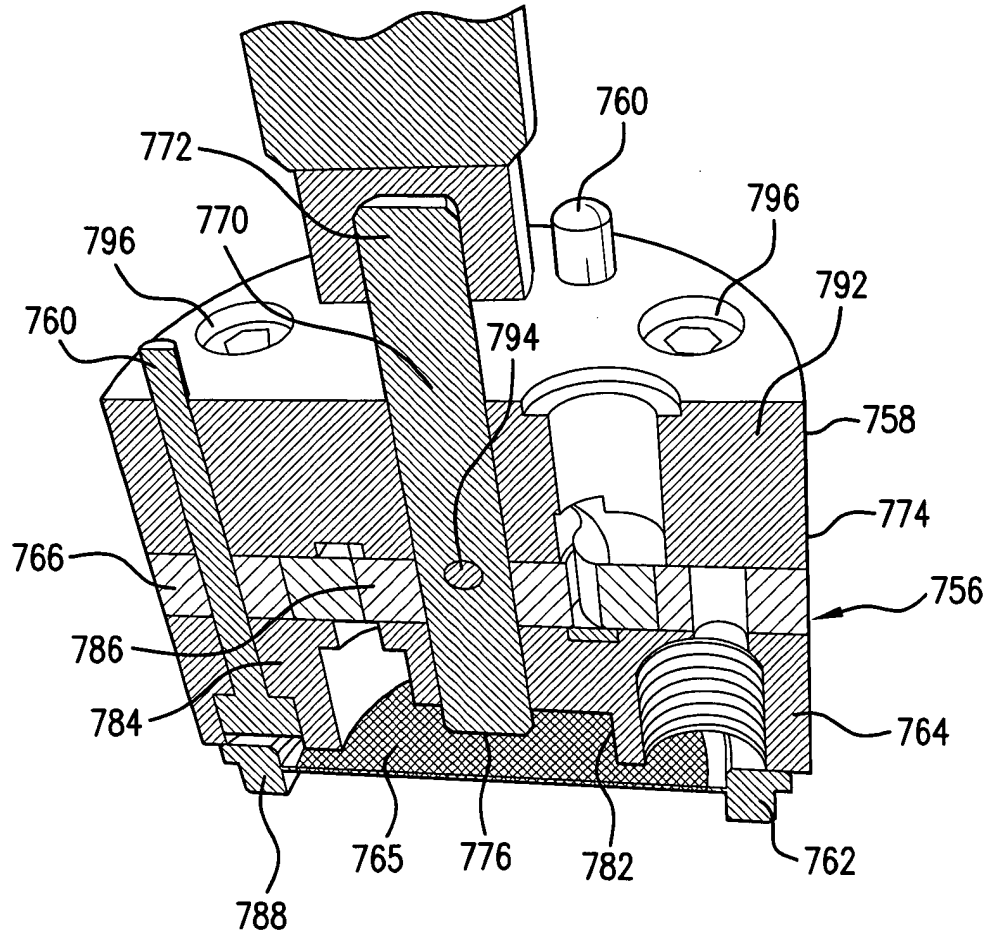
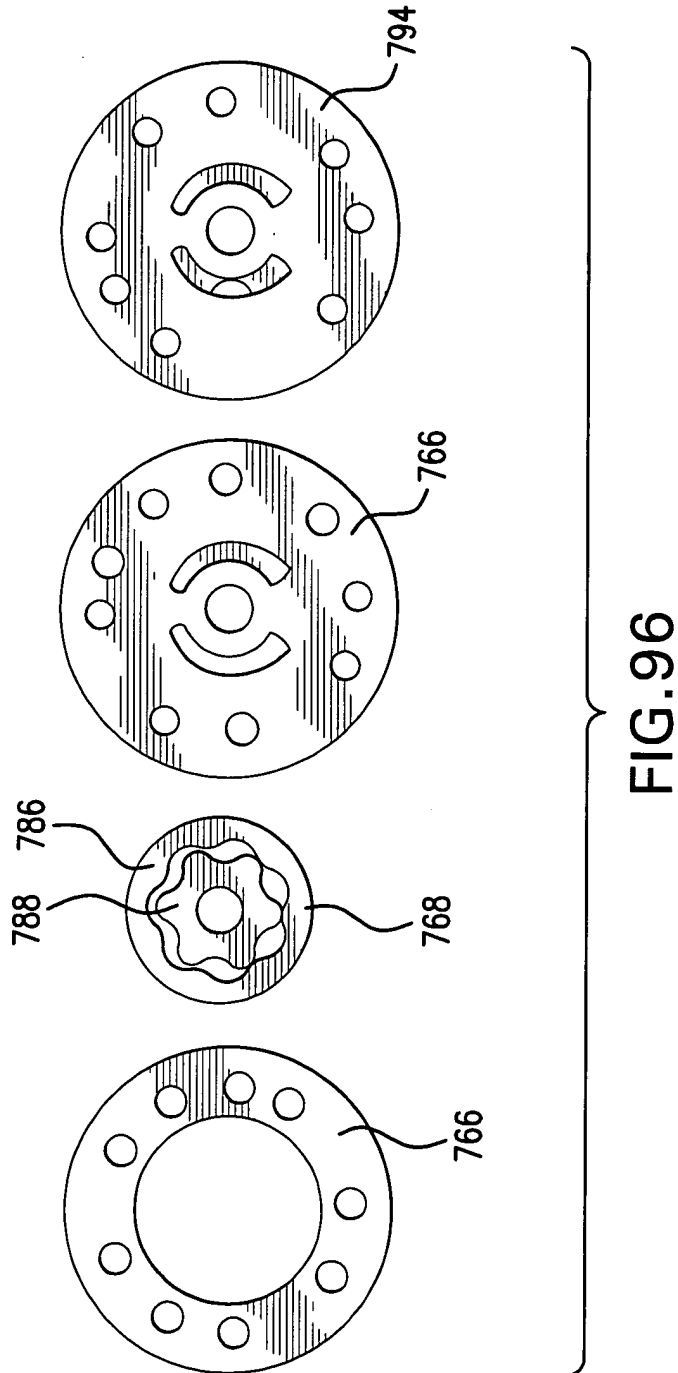
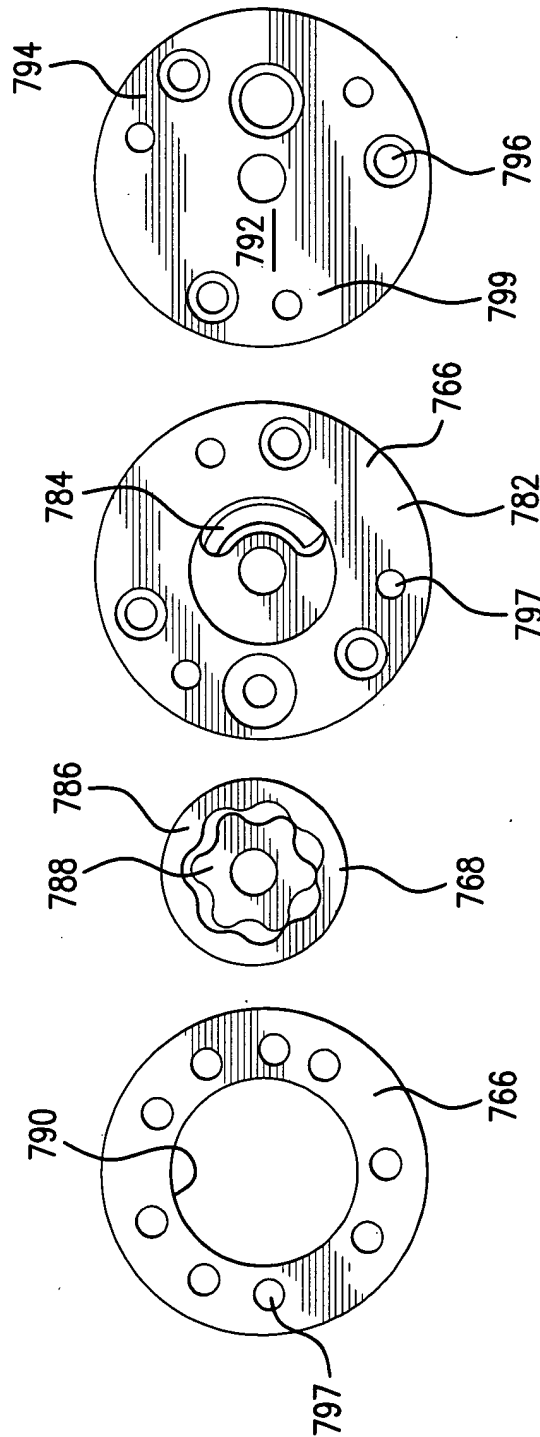
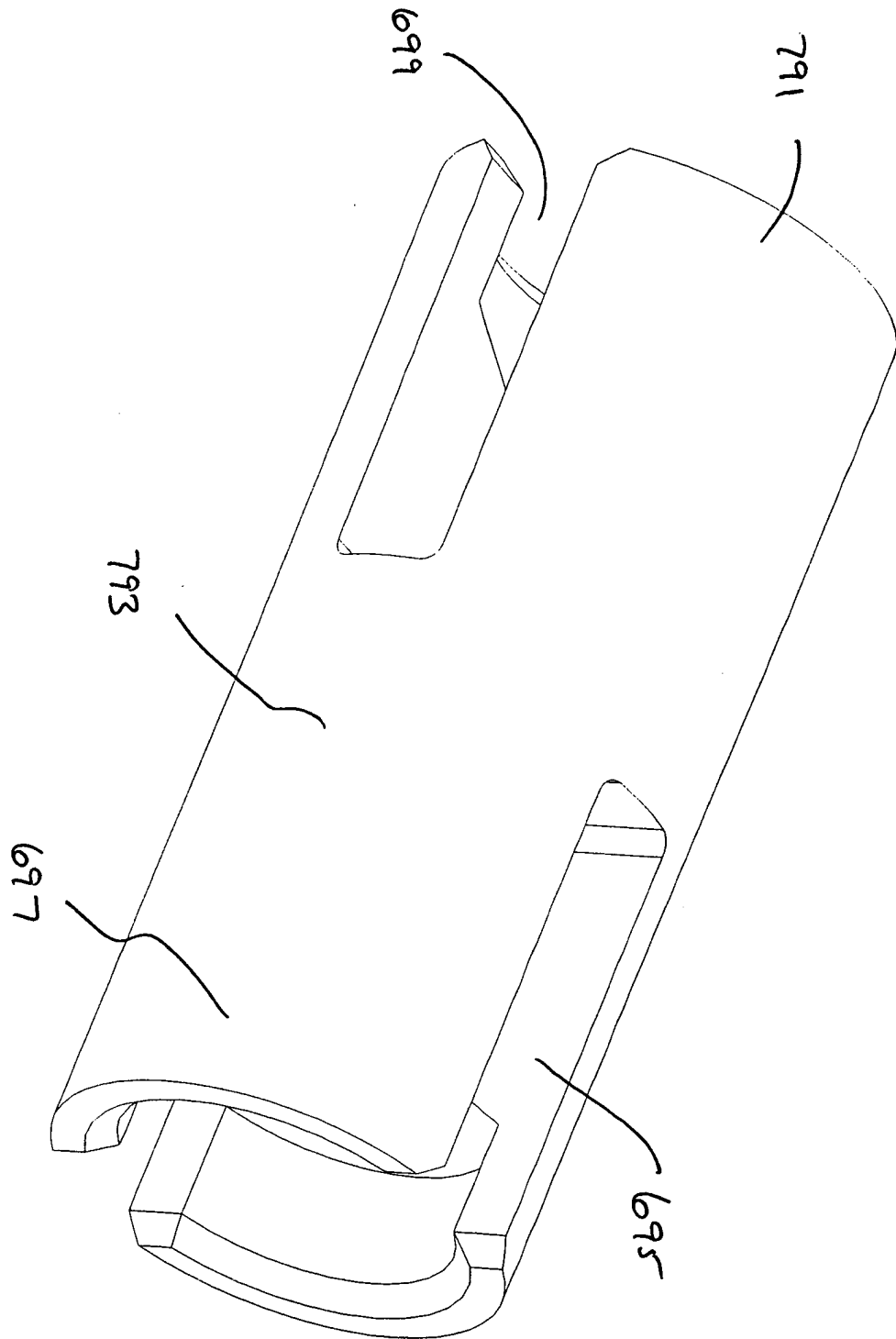


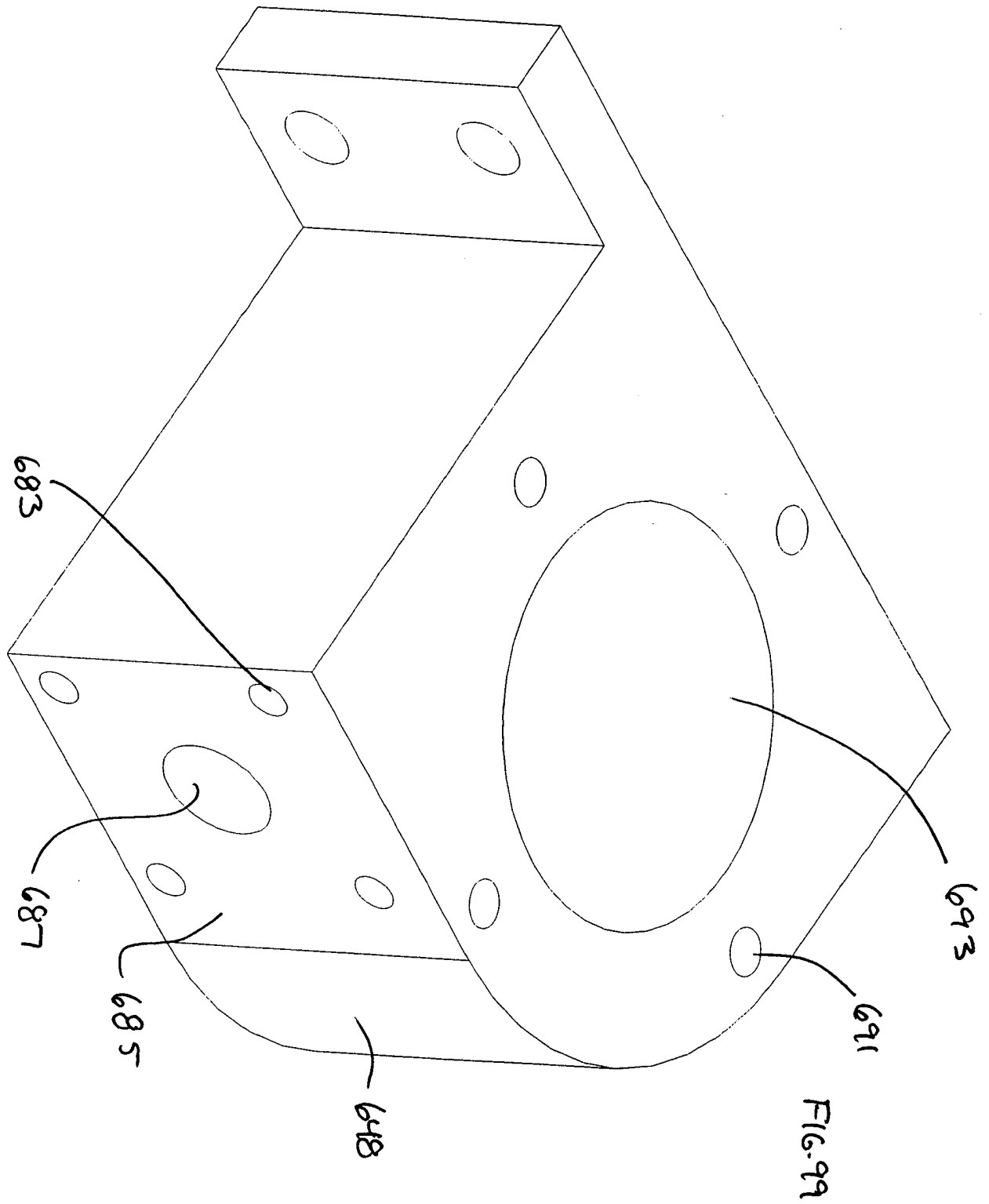
FIG.95

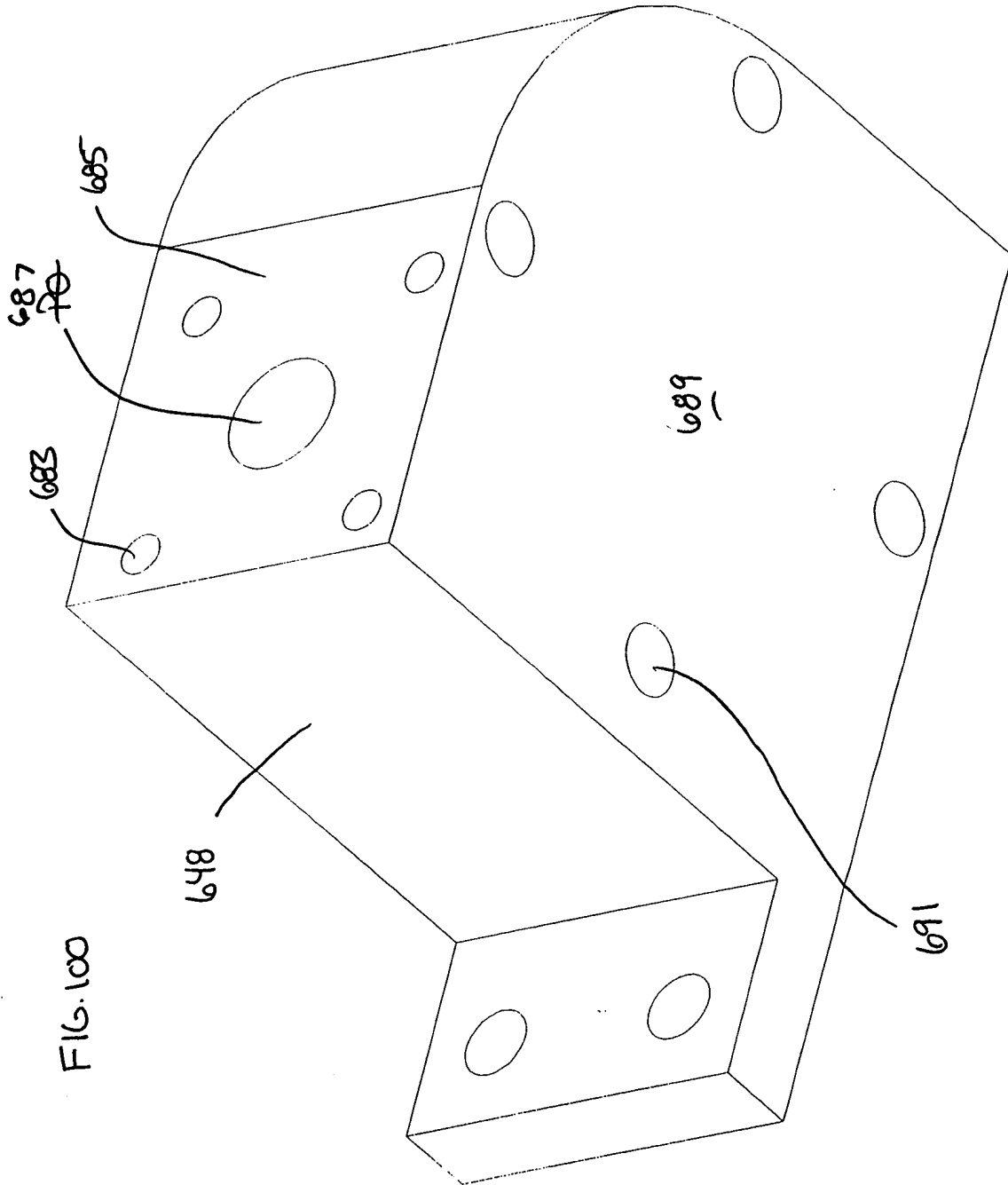


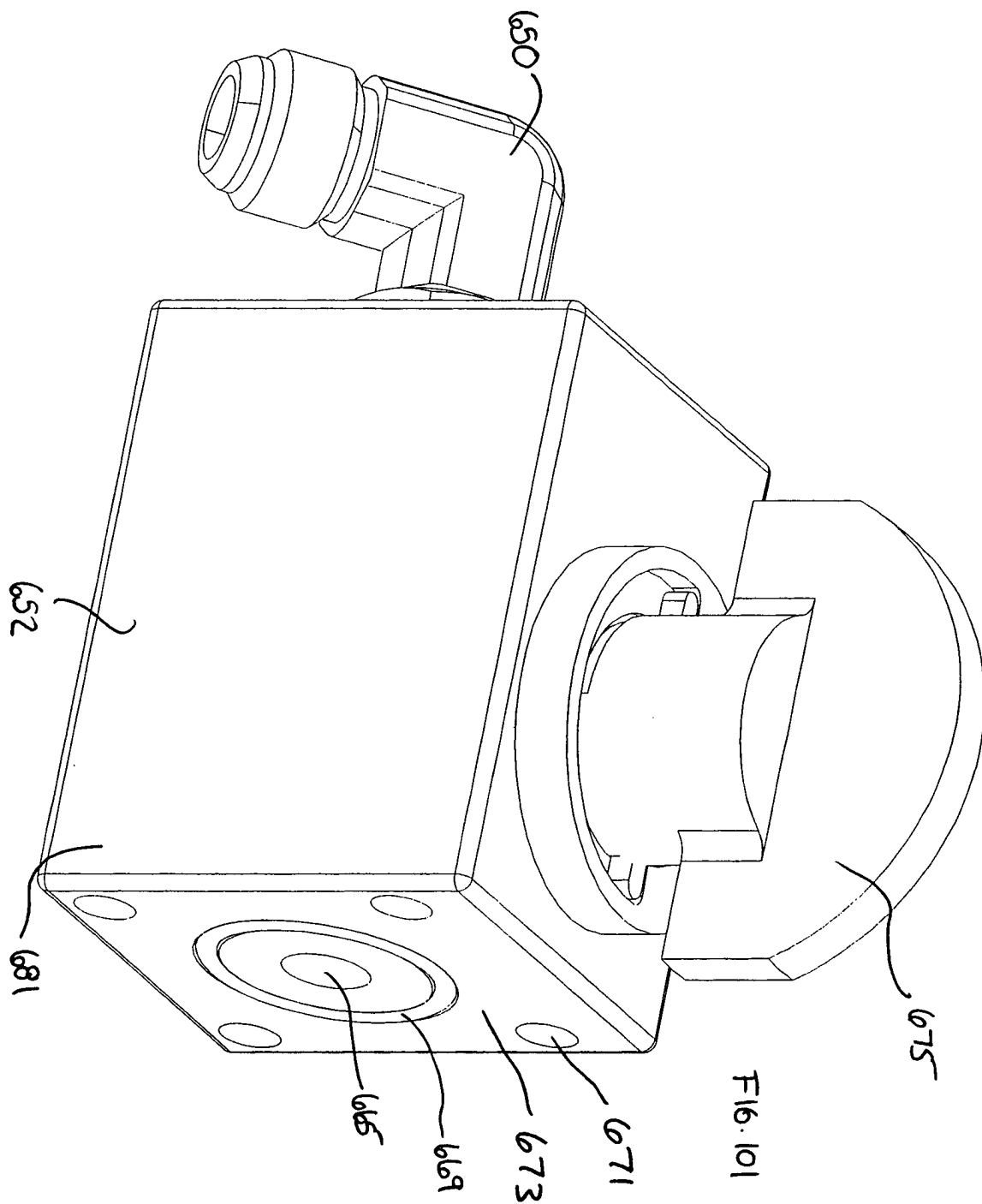


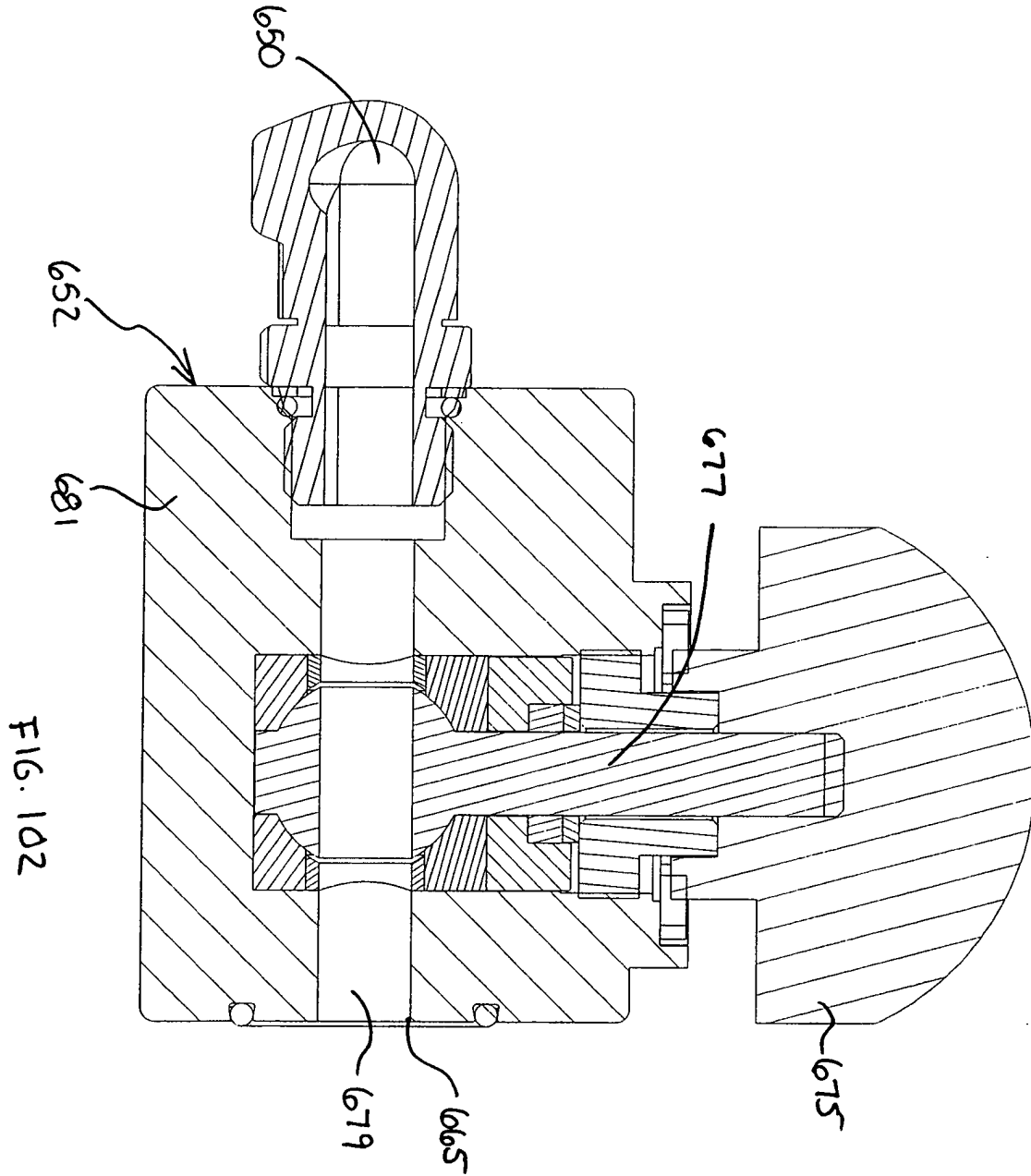


F16.78









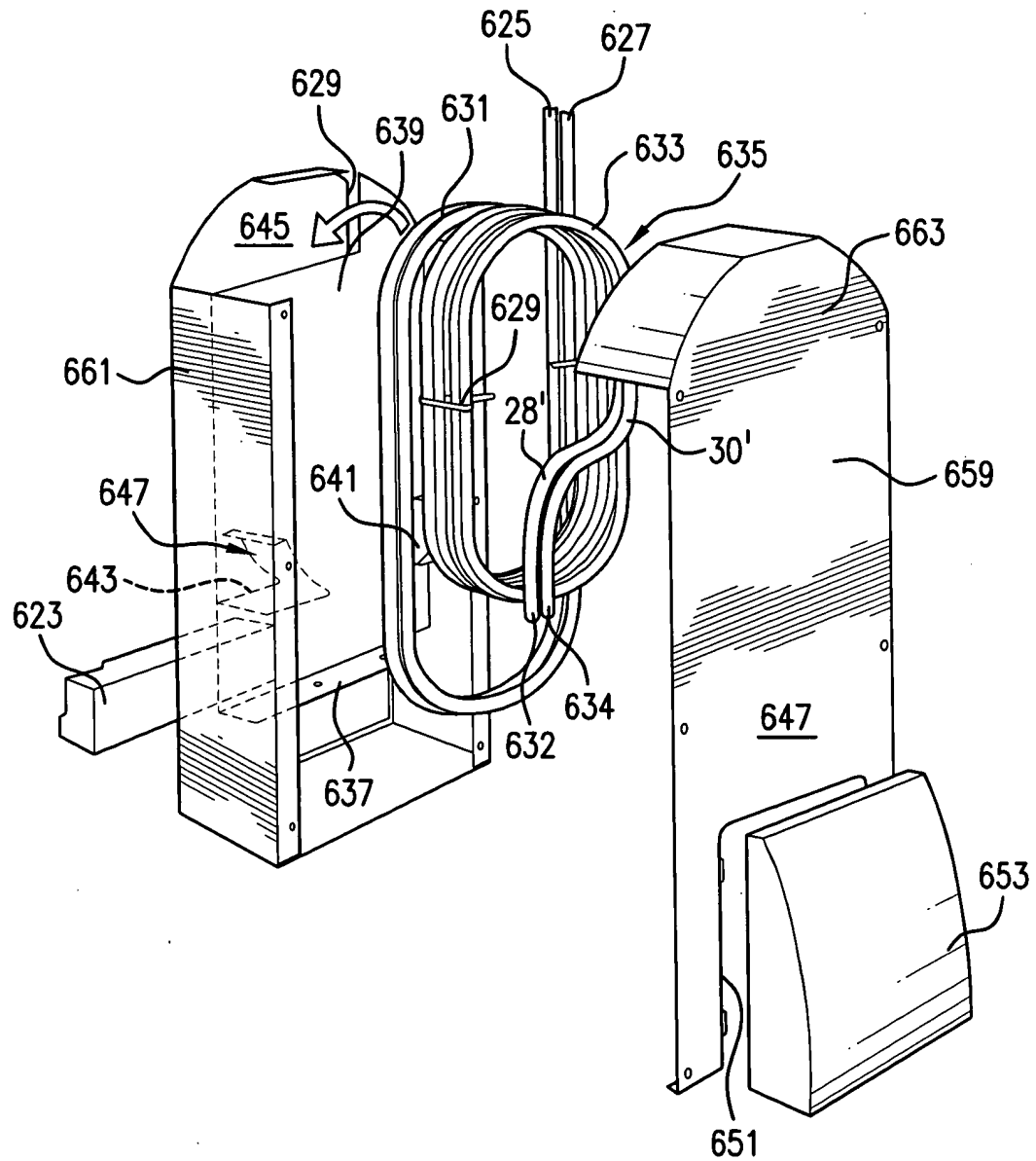


FIG. 103

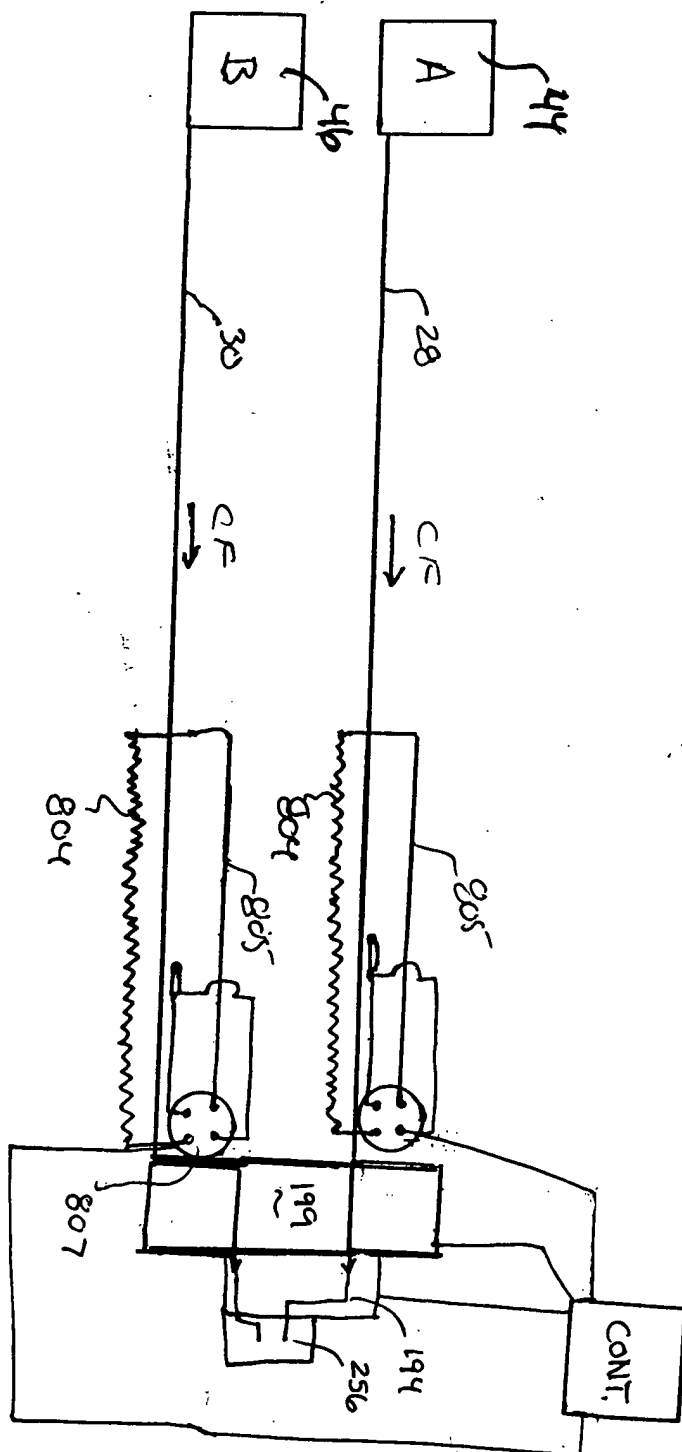
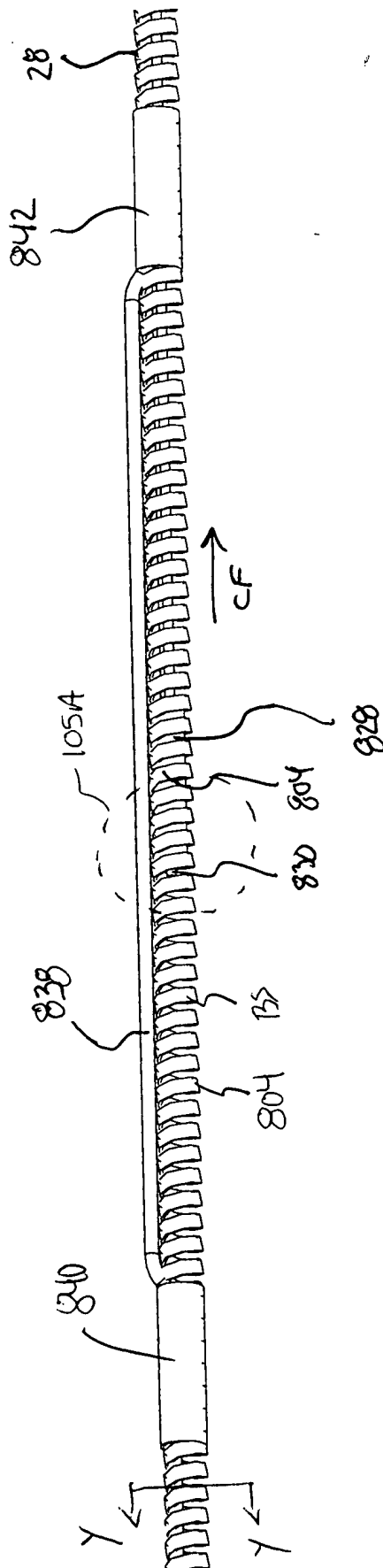
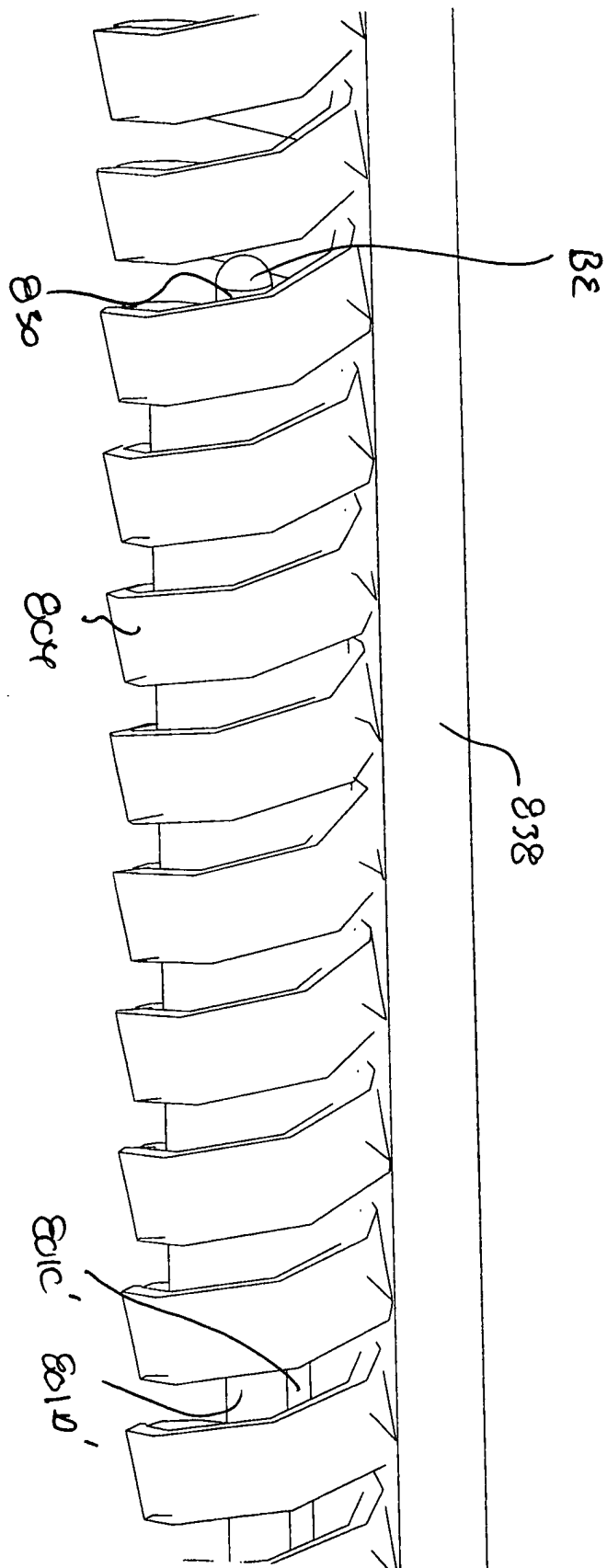
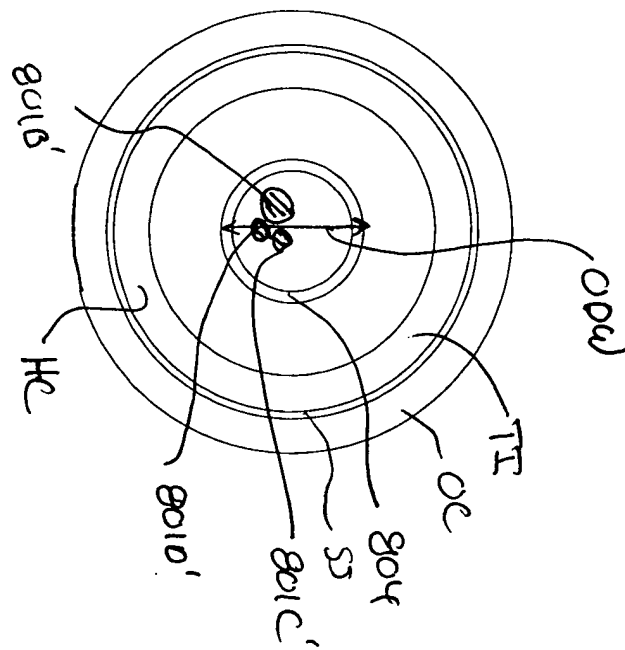


FIG. 104

FIG. 105X







FLG. 106

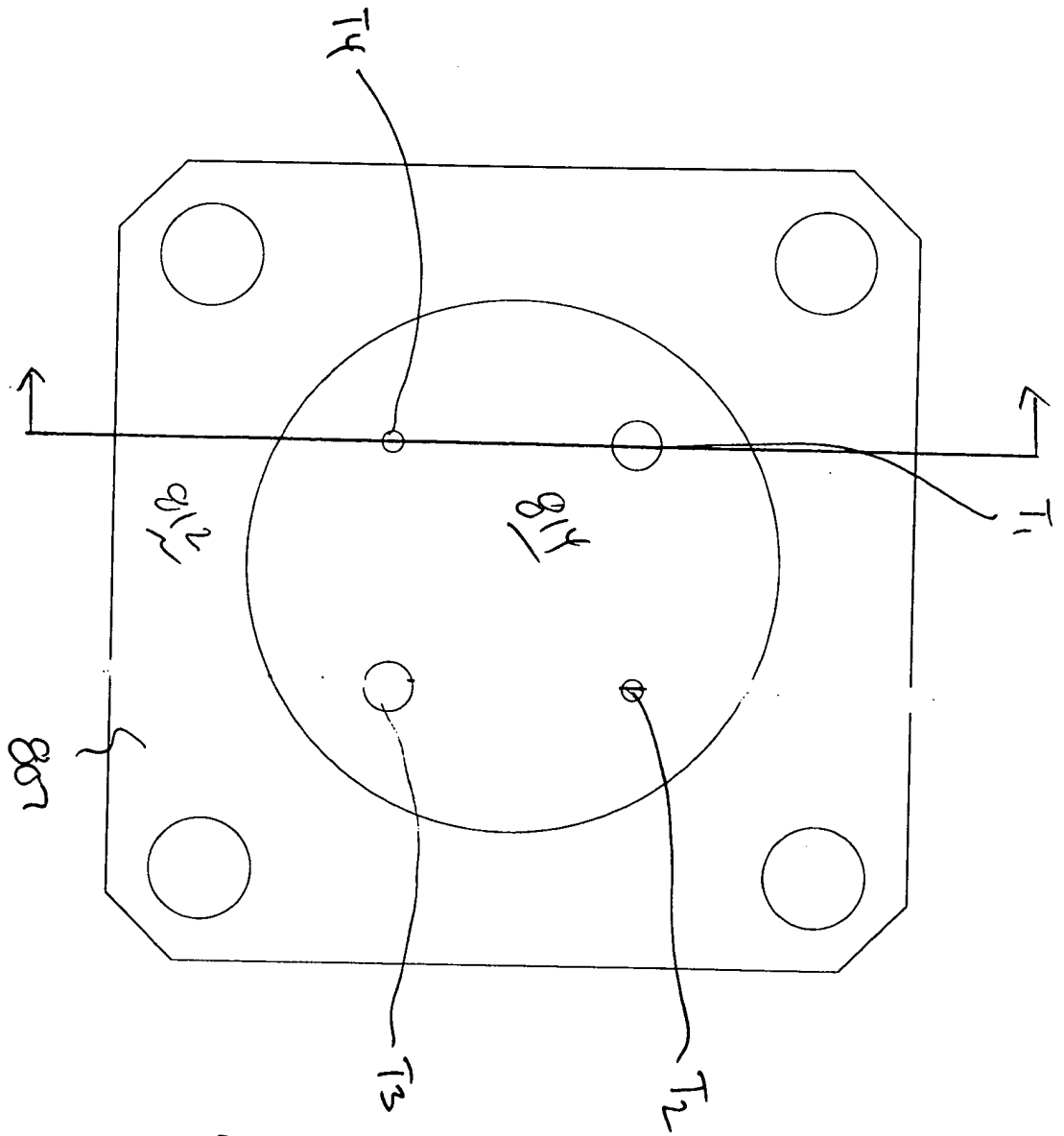


FIG. 107

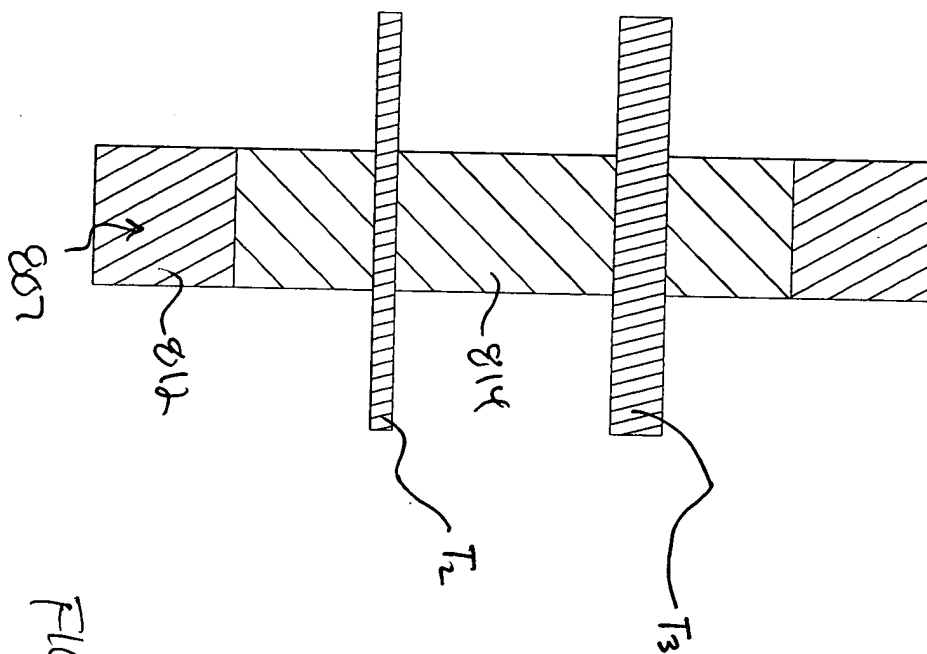
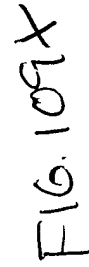


FIG. 108



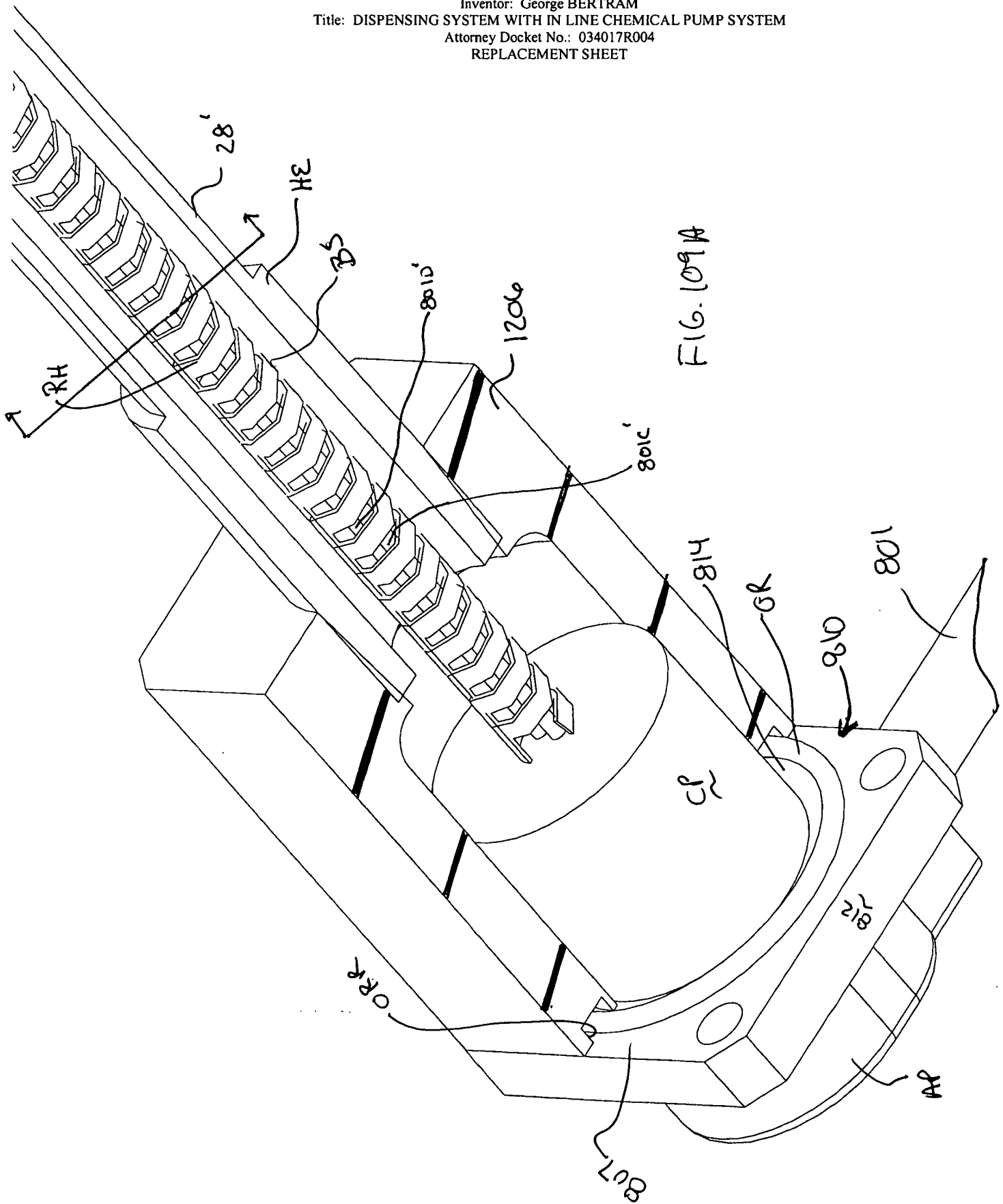
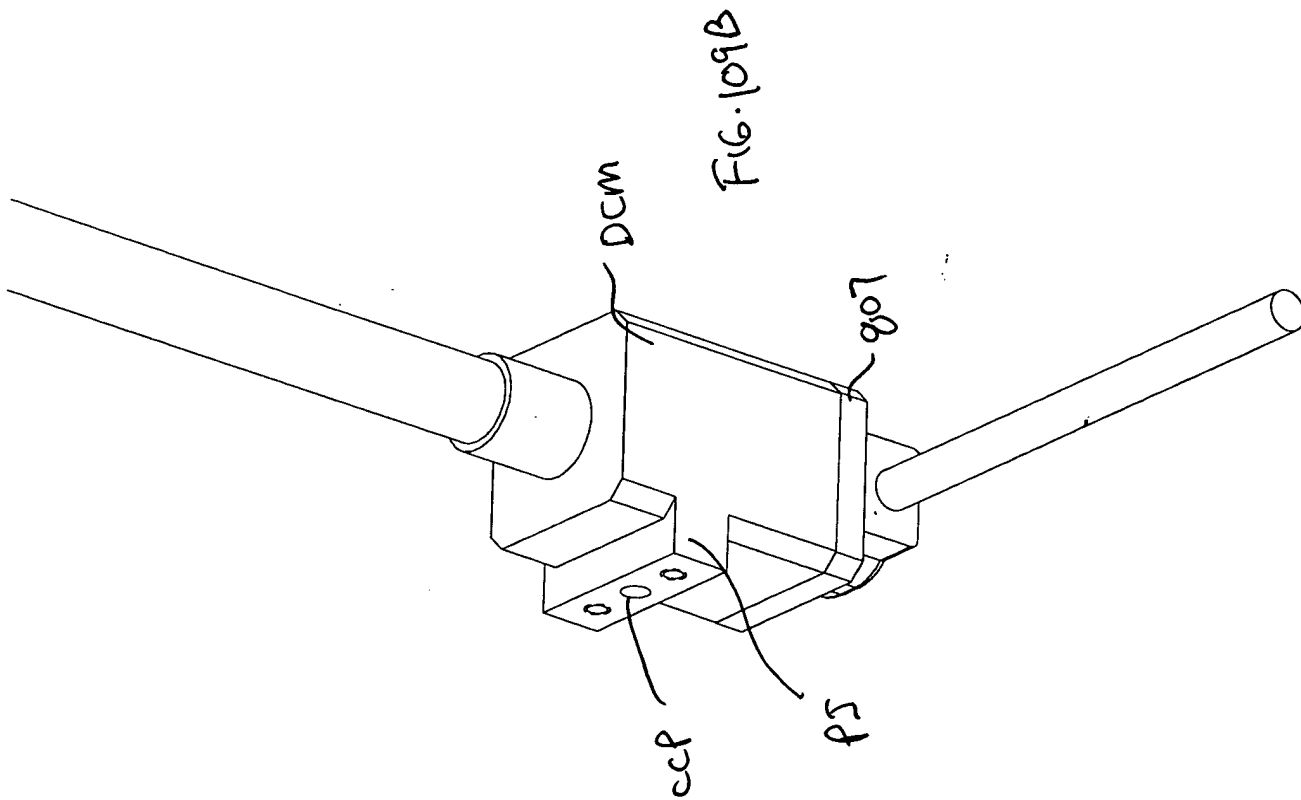
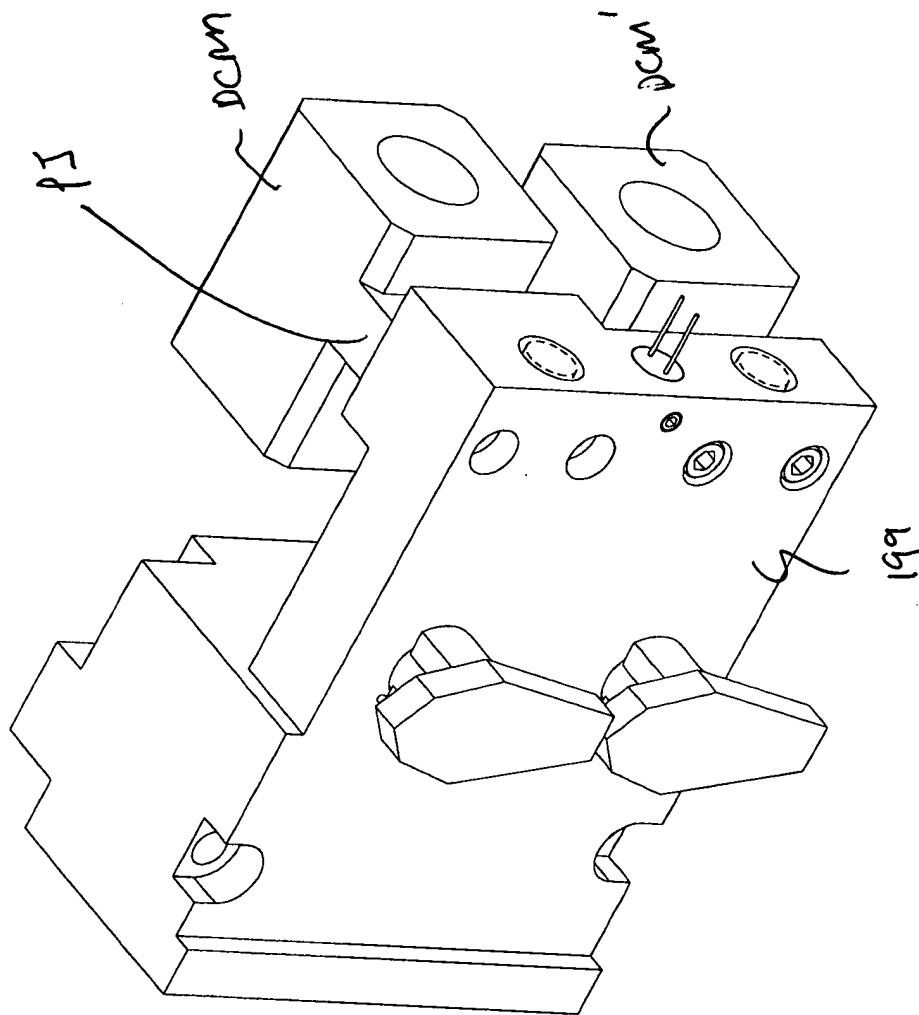
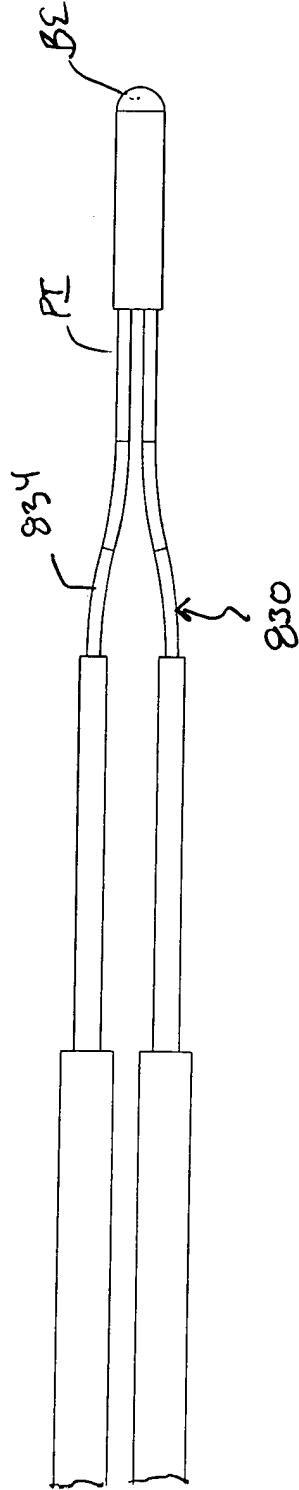


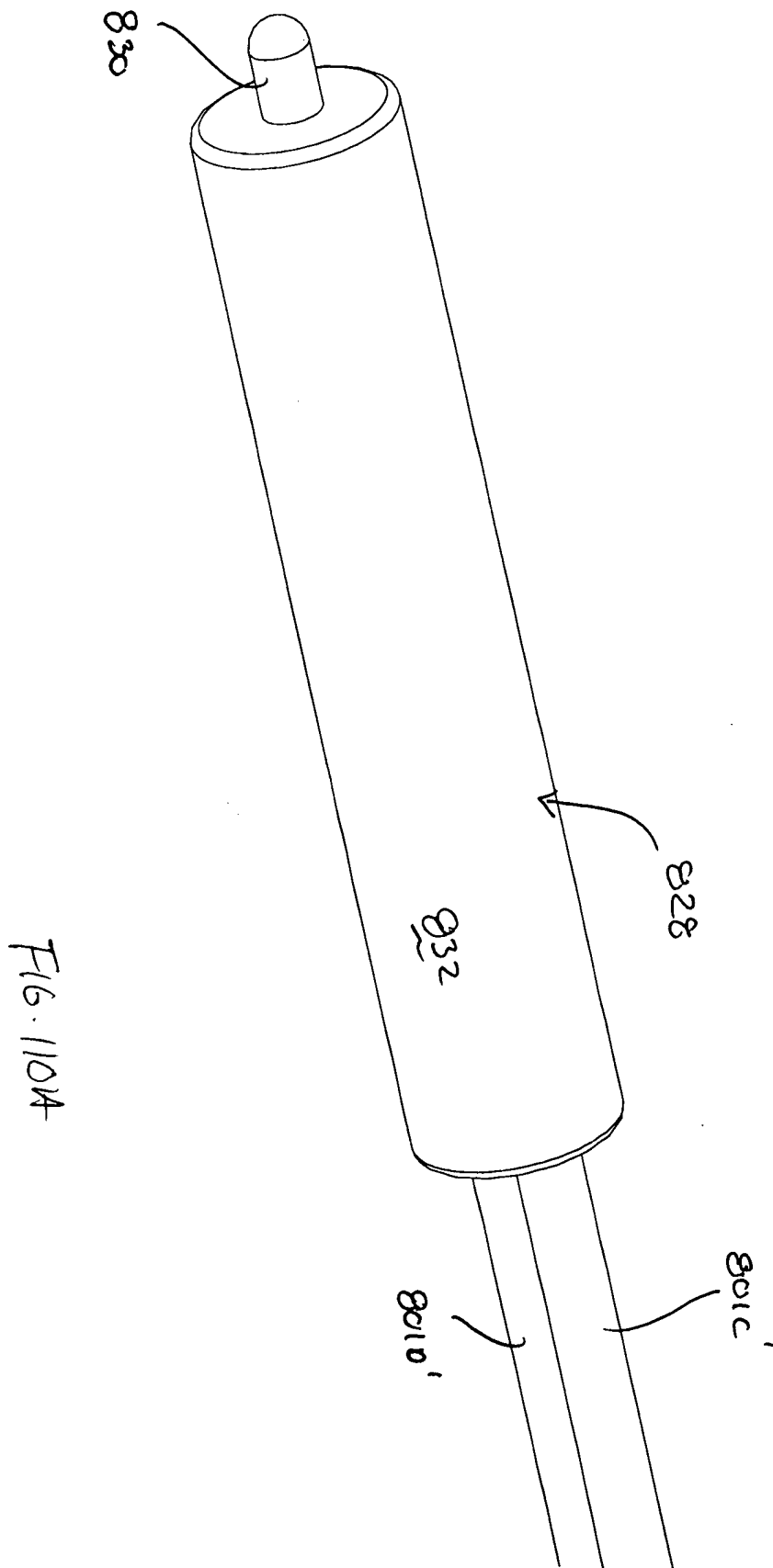
Fig. 109A



109C







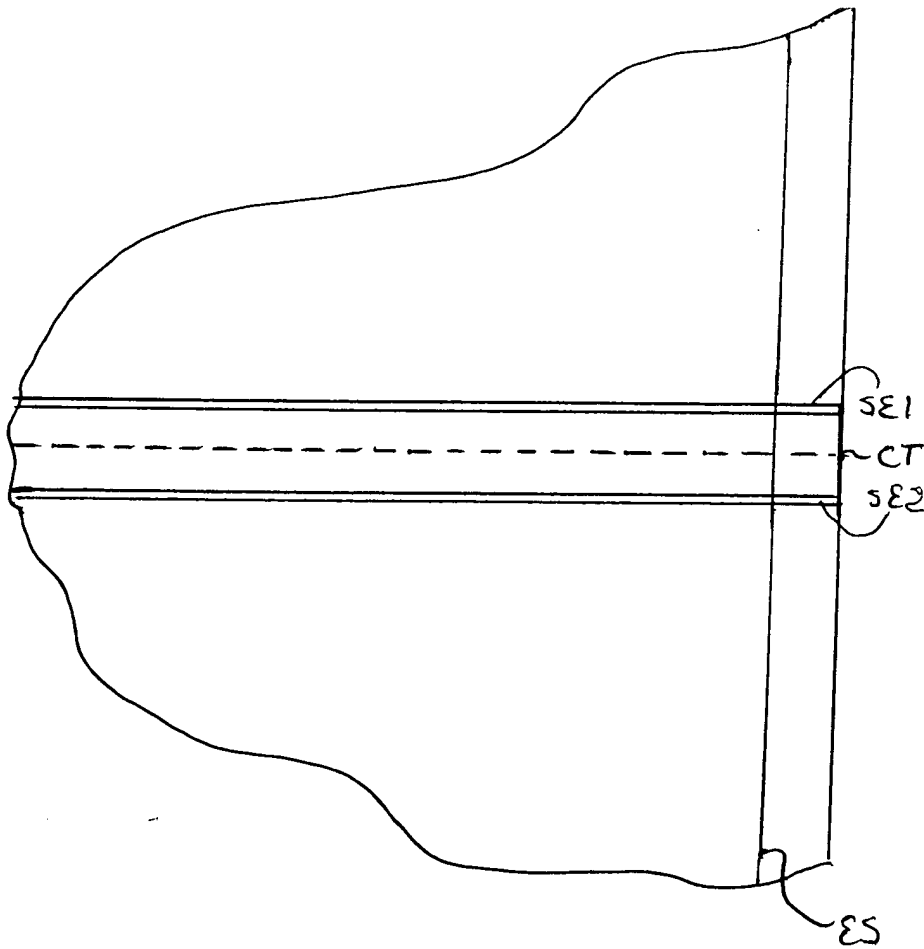


FIG. III

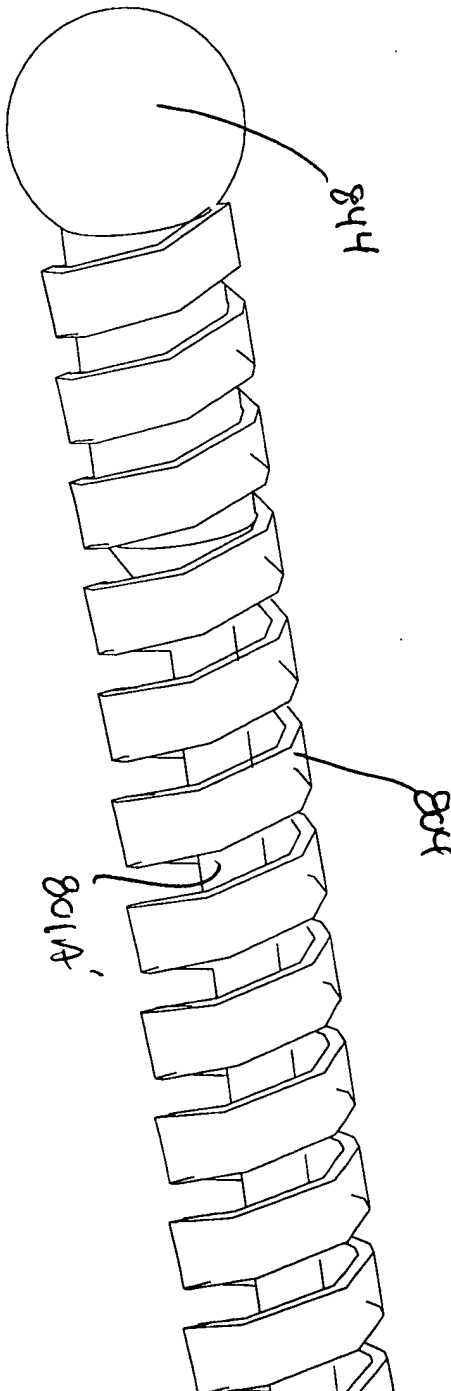


FIG. 112

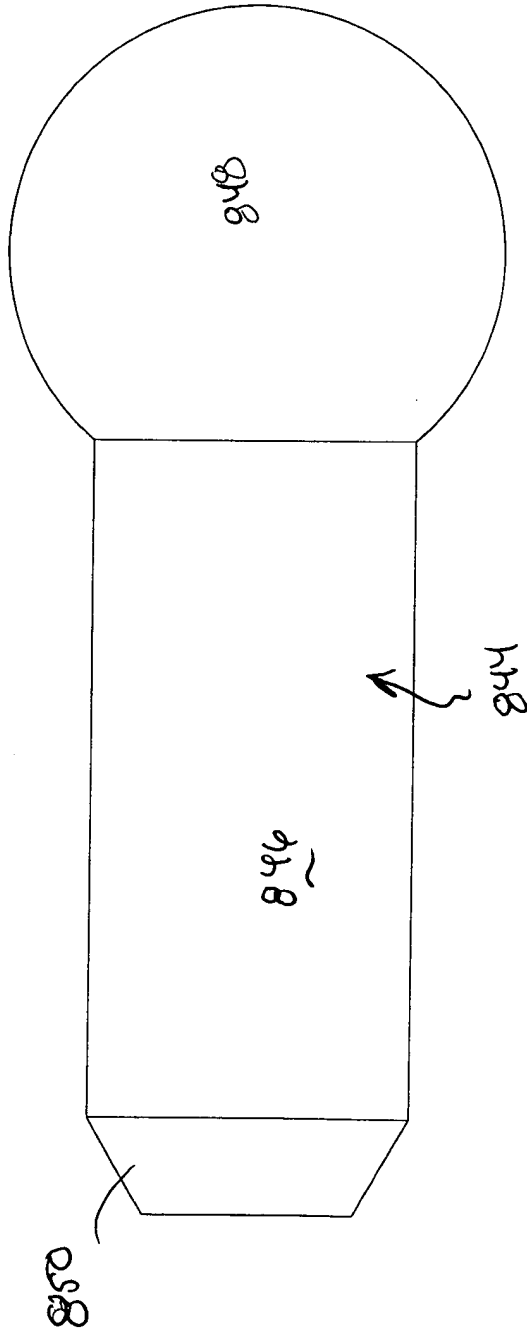


FIG. 113X

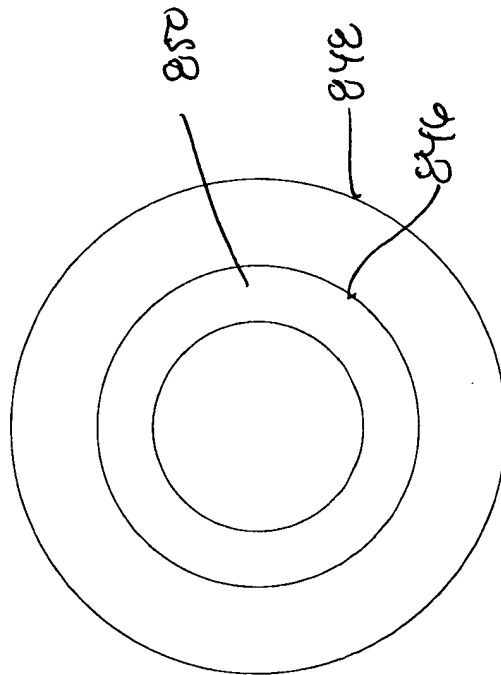


FIG. 113A

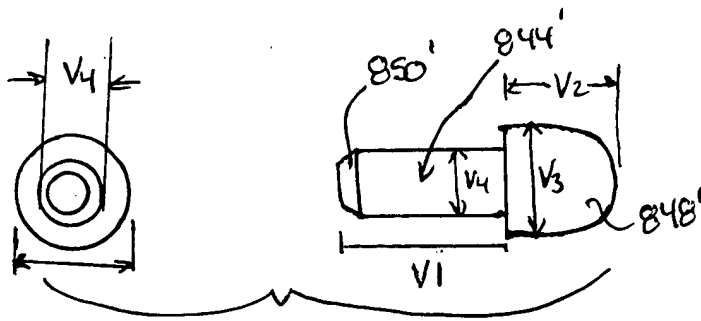
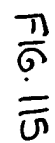
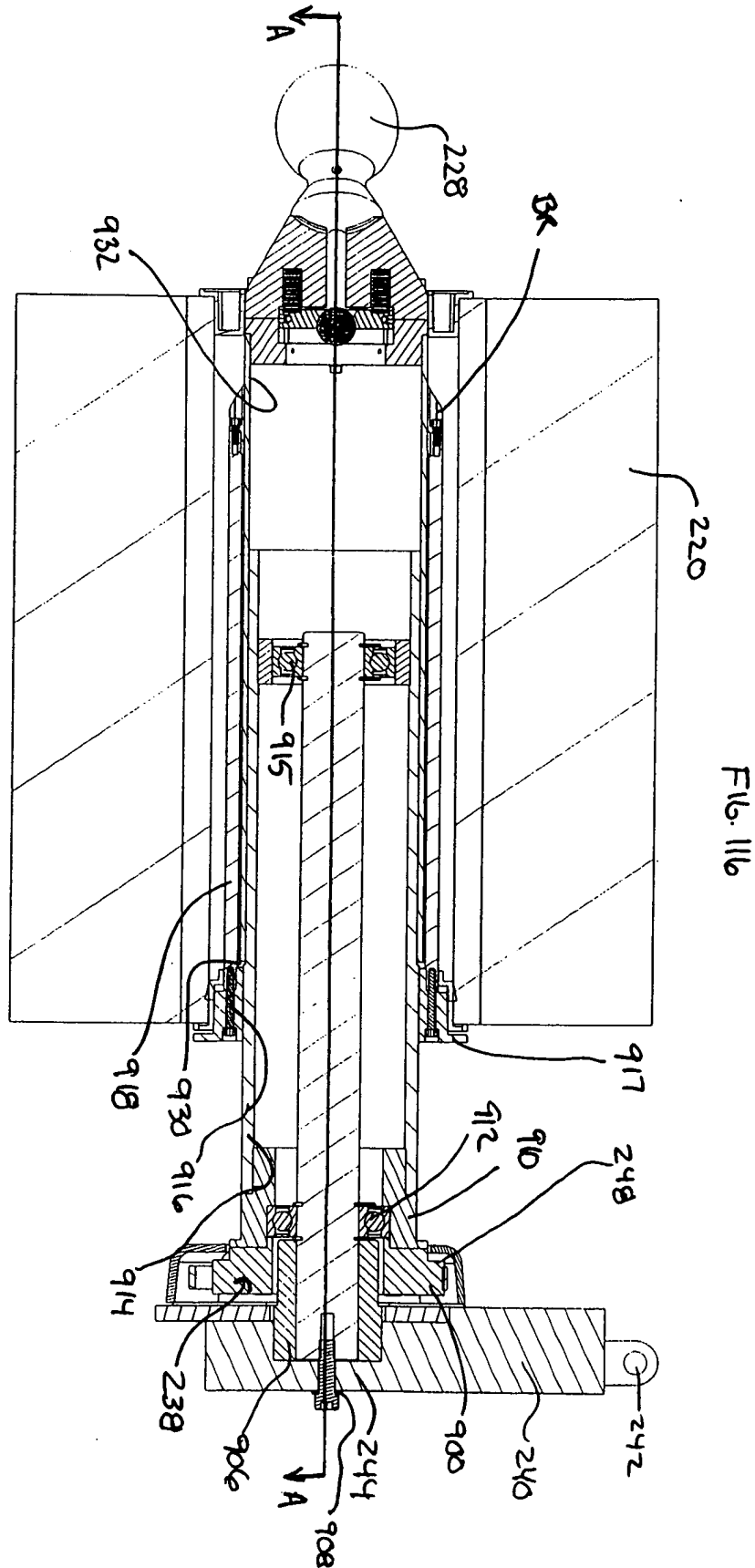
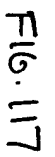


FIG. 114







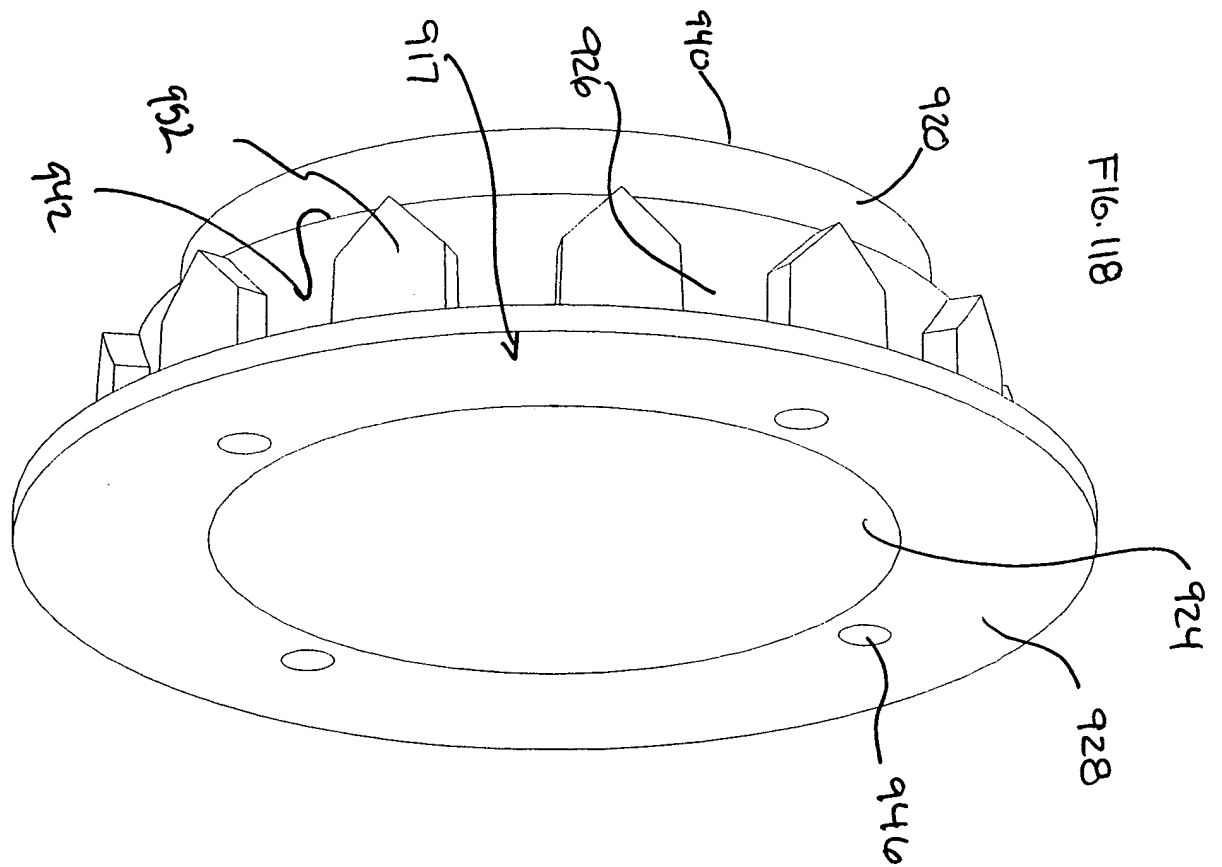
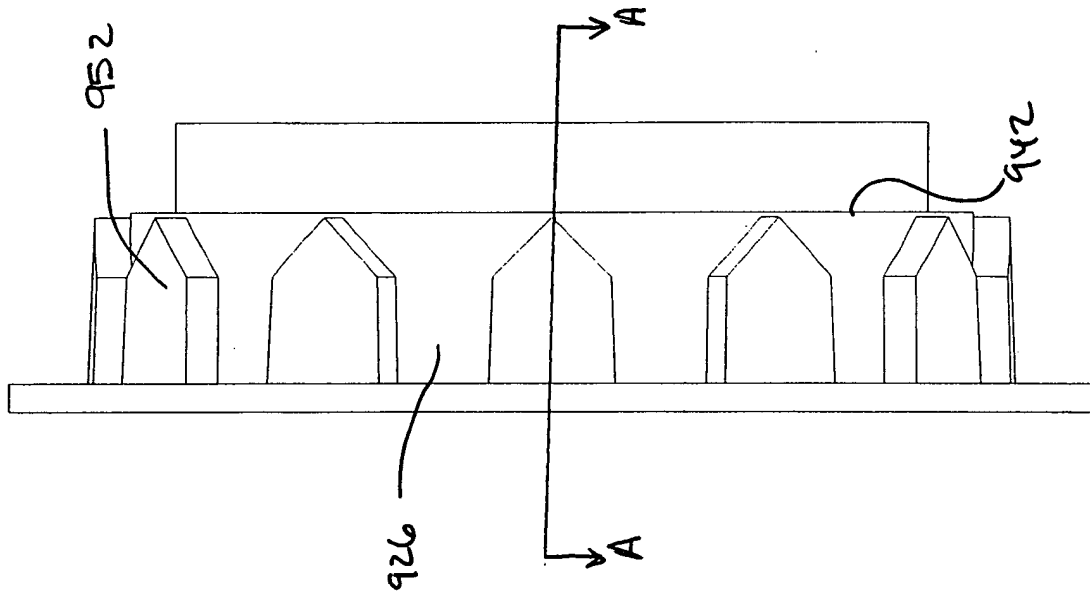
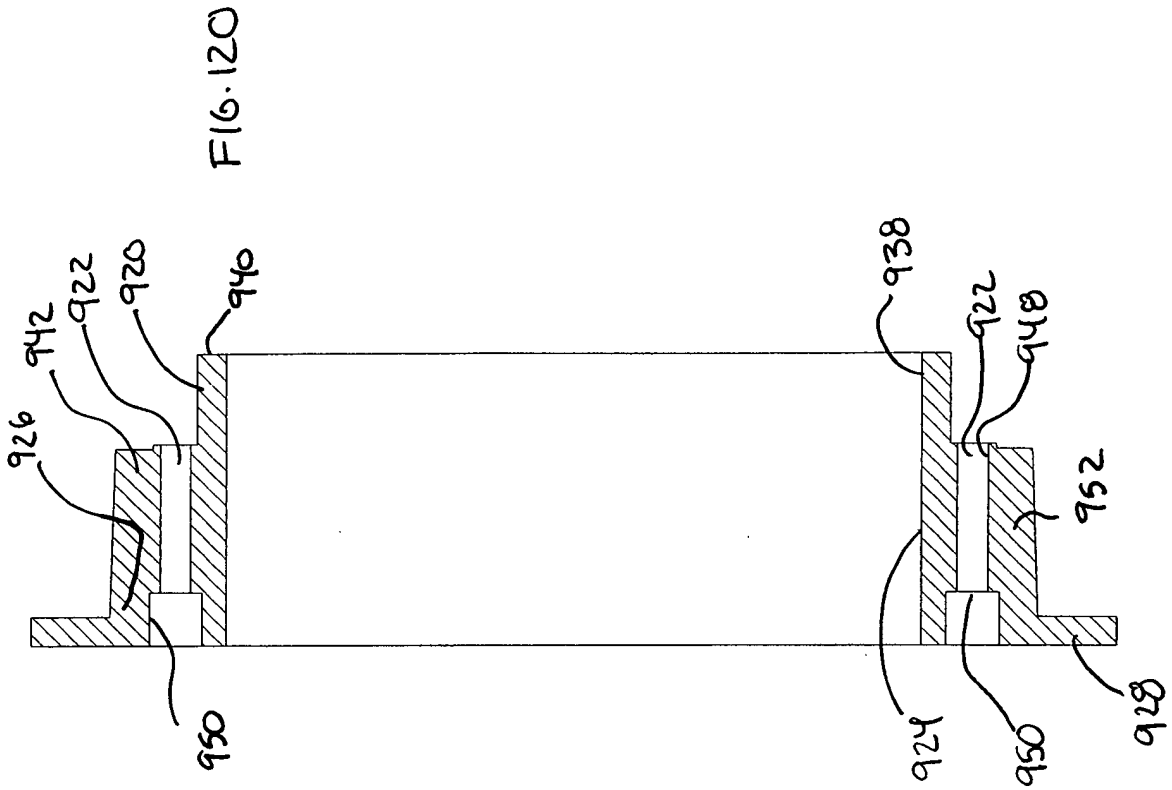
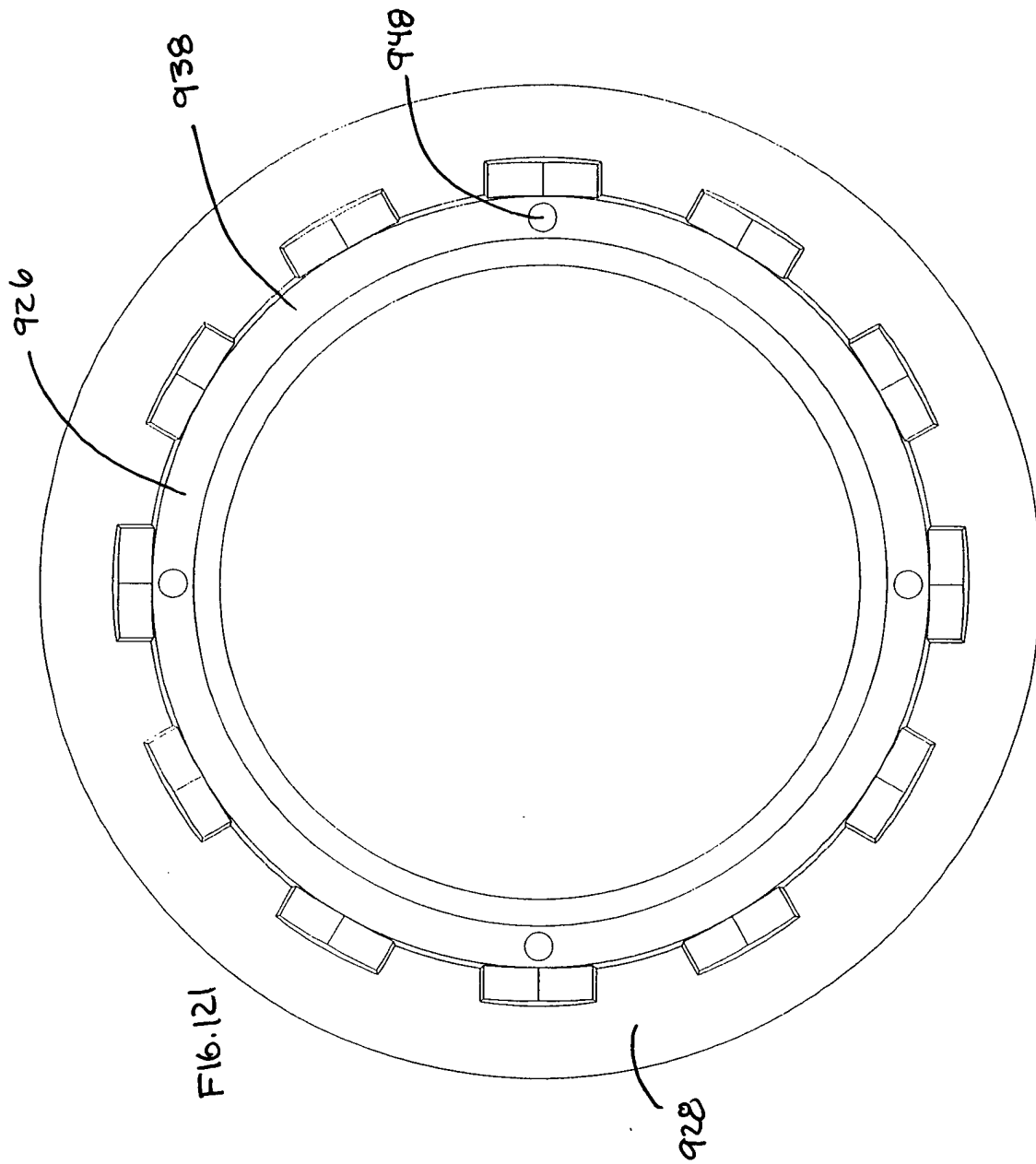
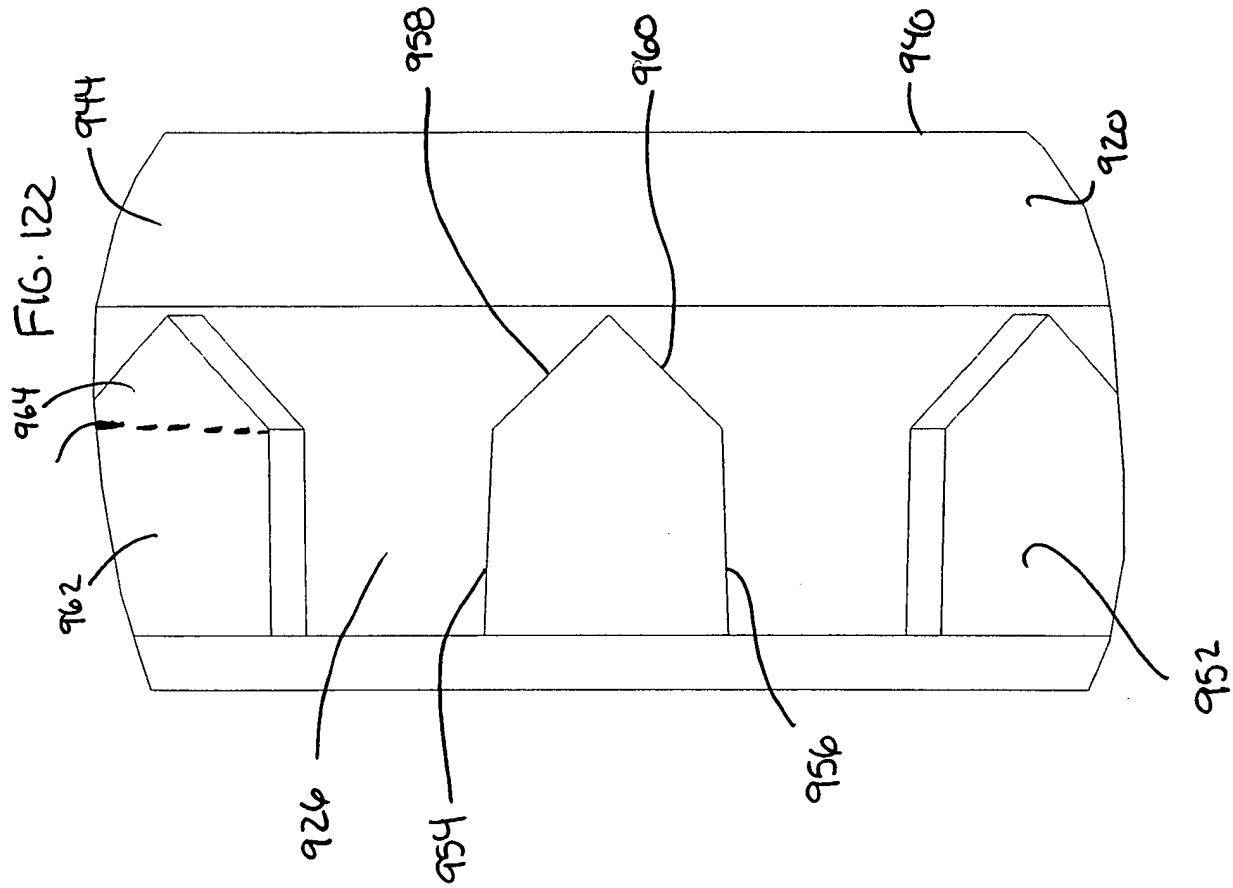


FIG. 119









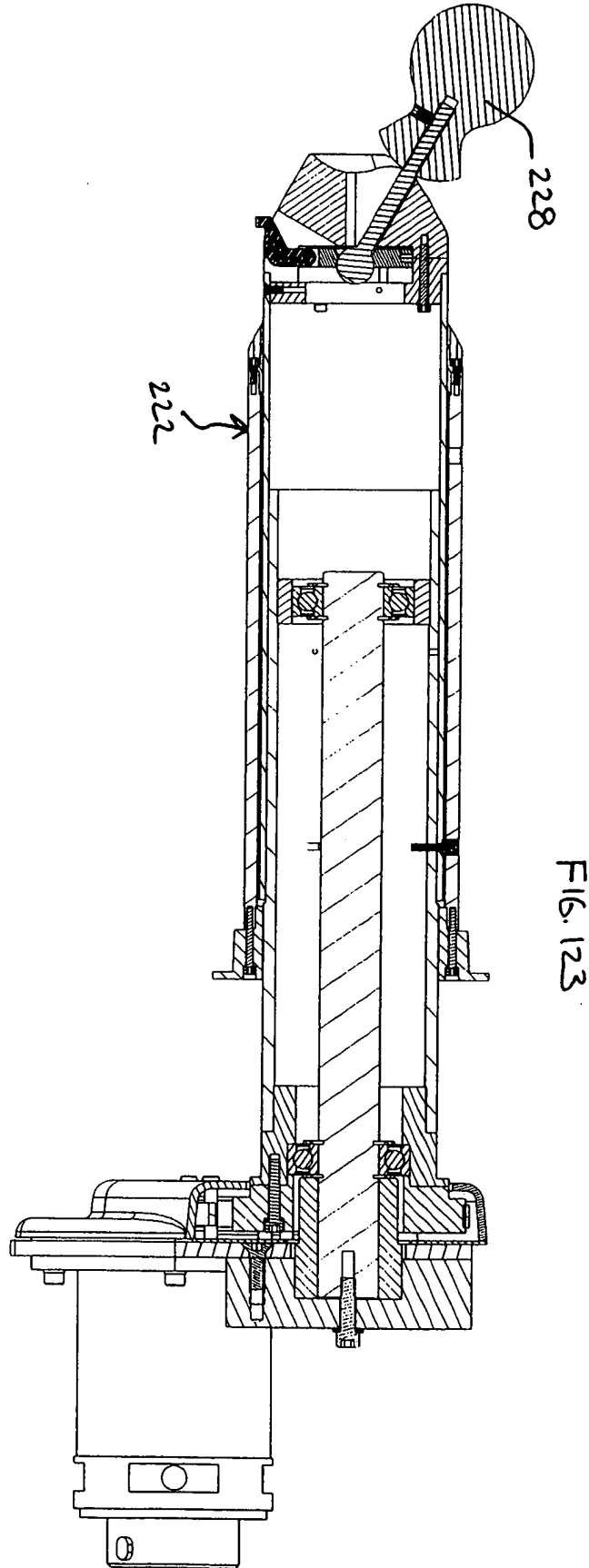
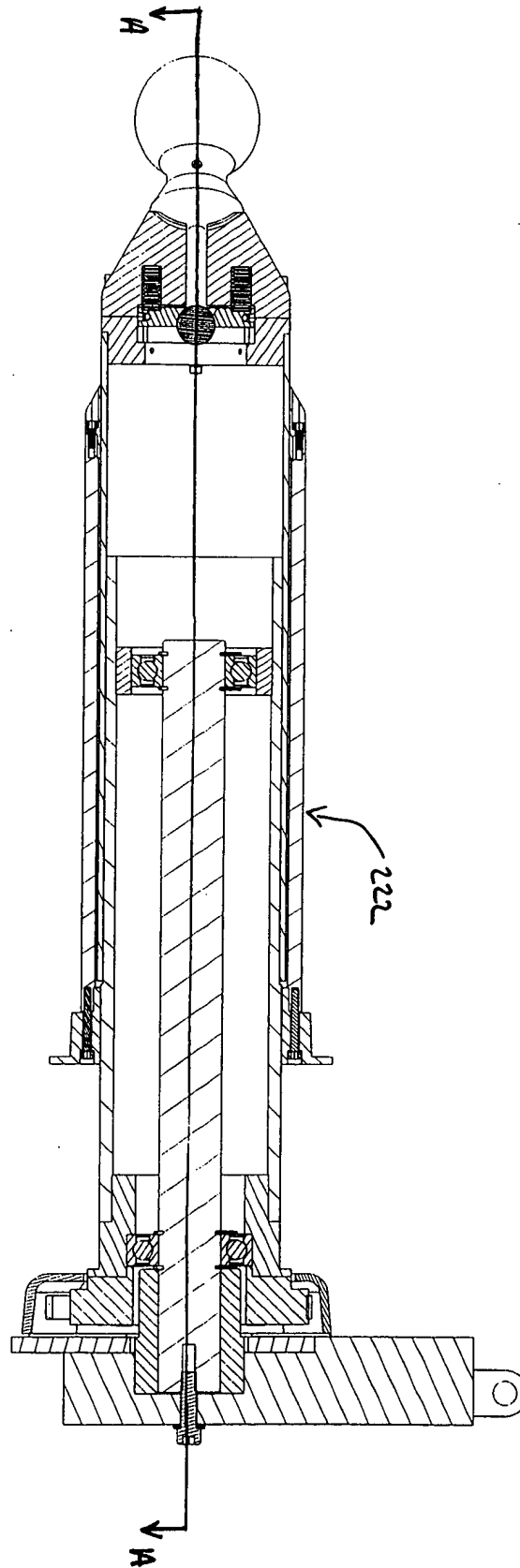
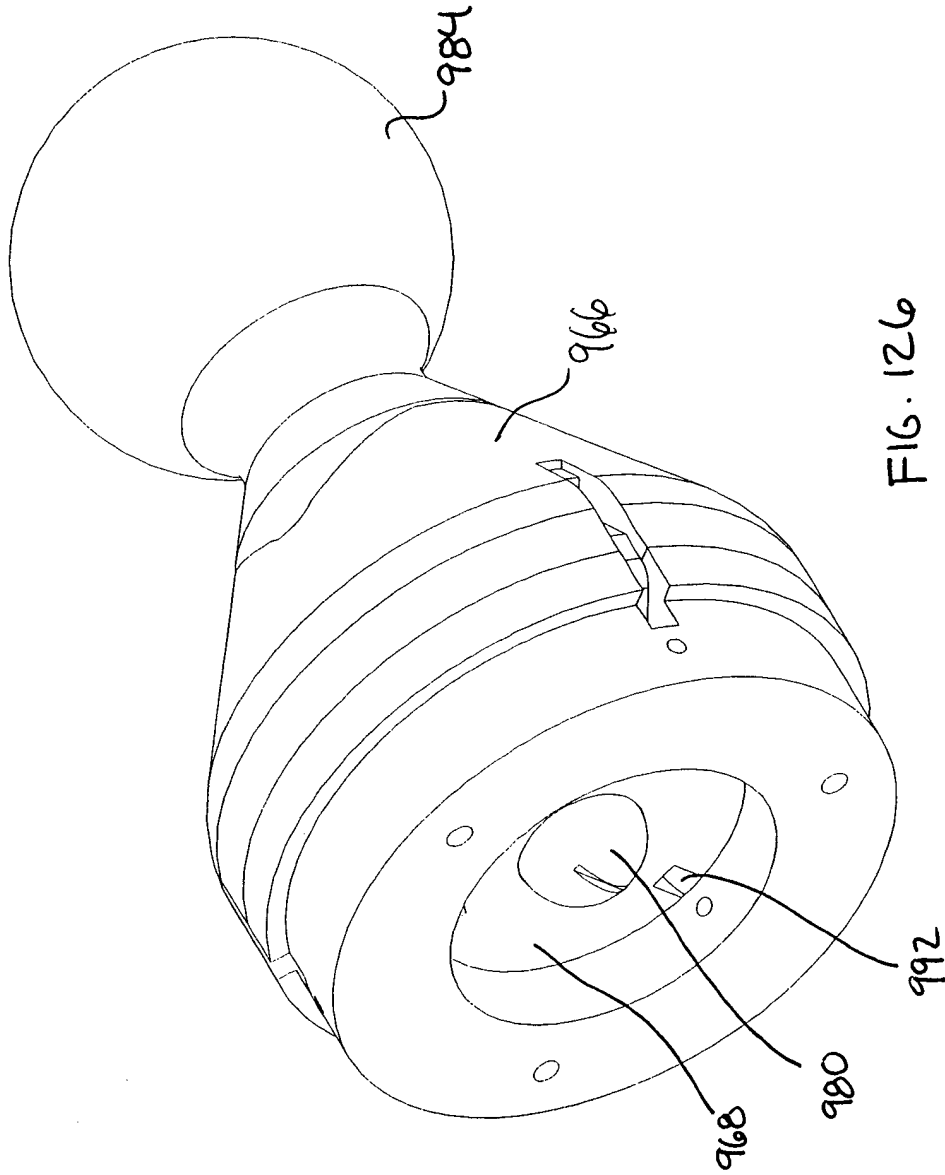


FIG. 124



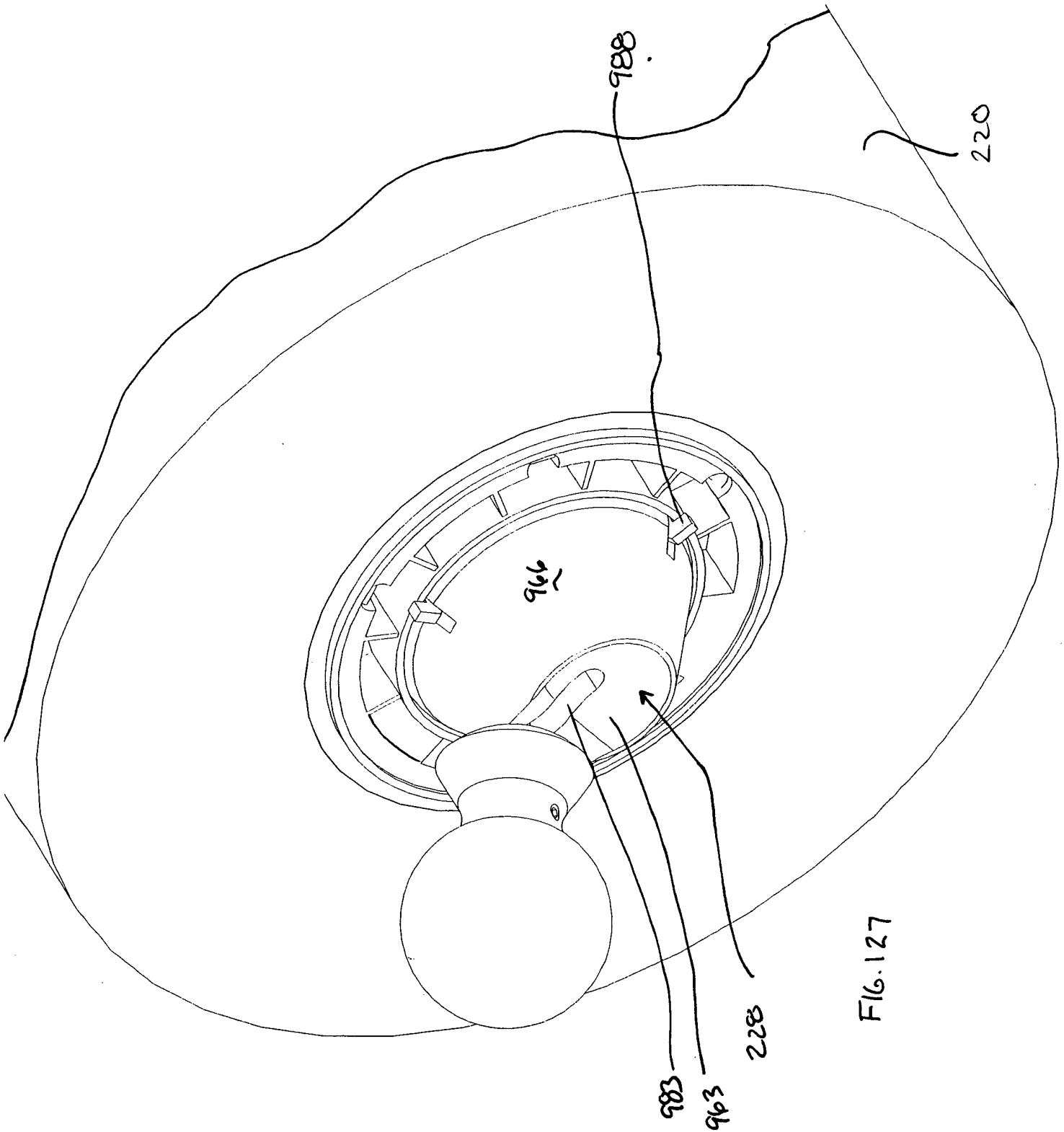


Inventor: George BERTRAM

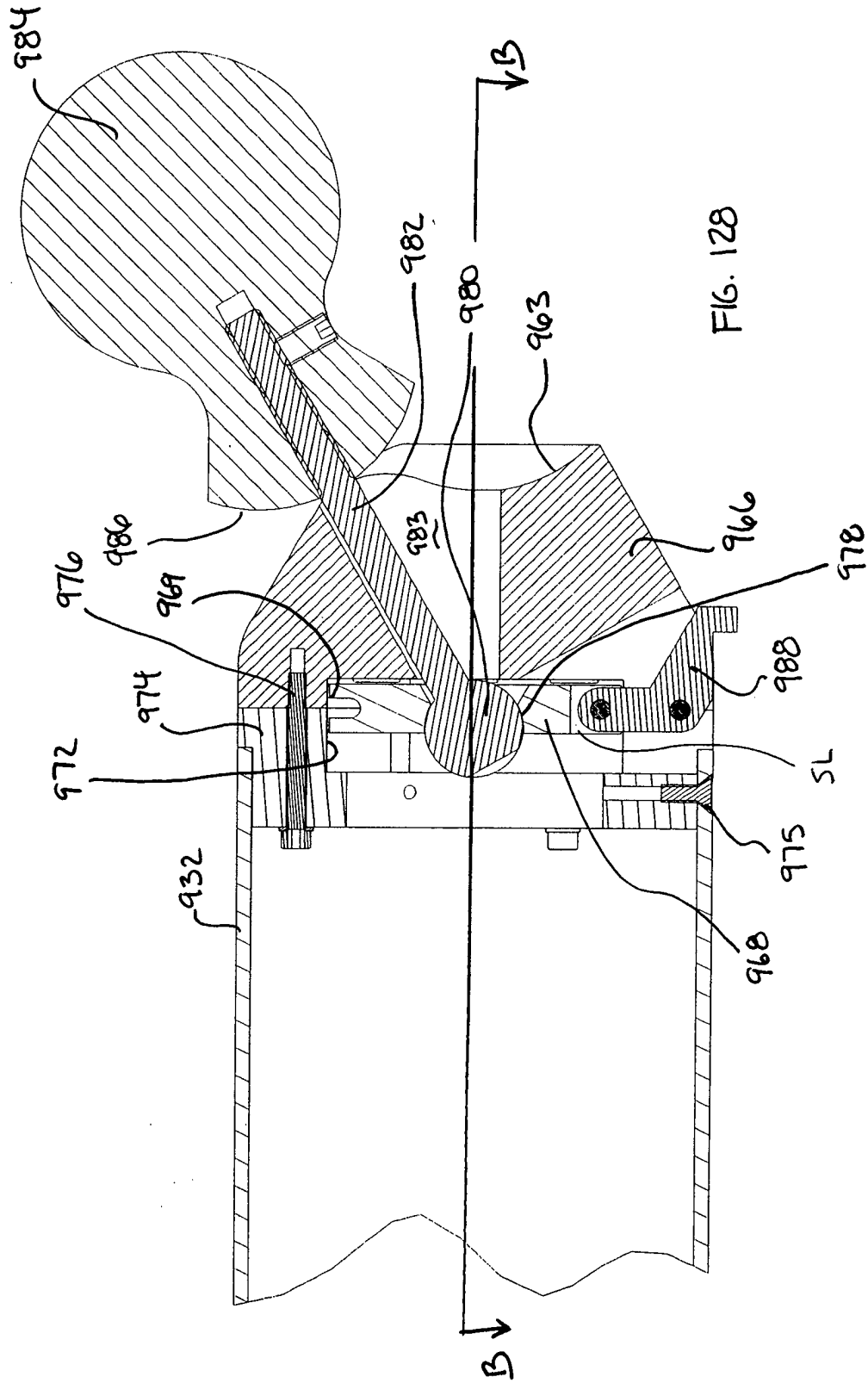
Title: DISPENSING SYSTEM WITH IN LINE CHEMICAL PUMP SYSTEM

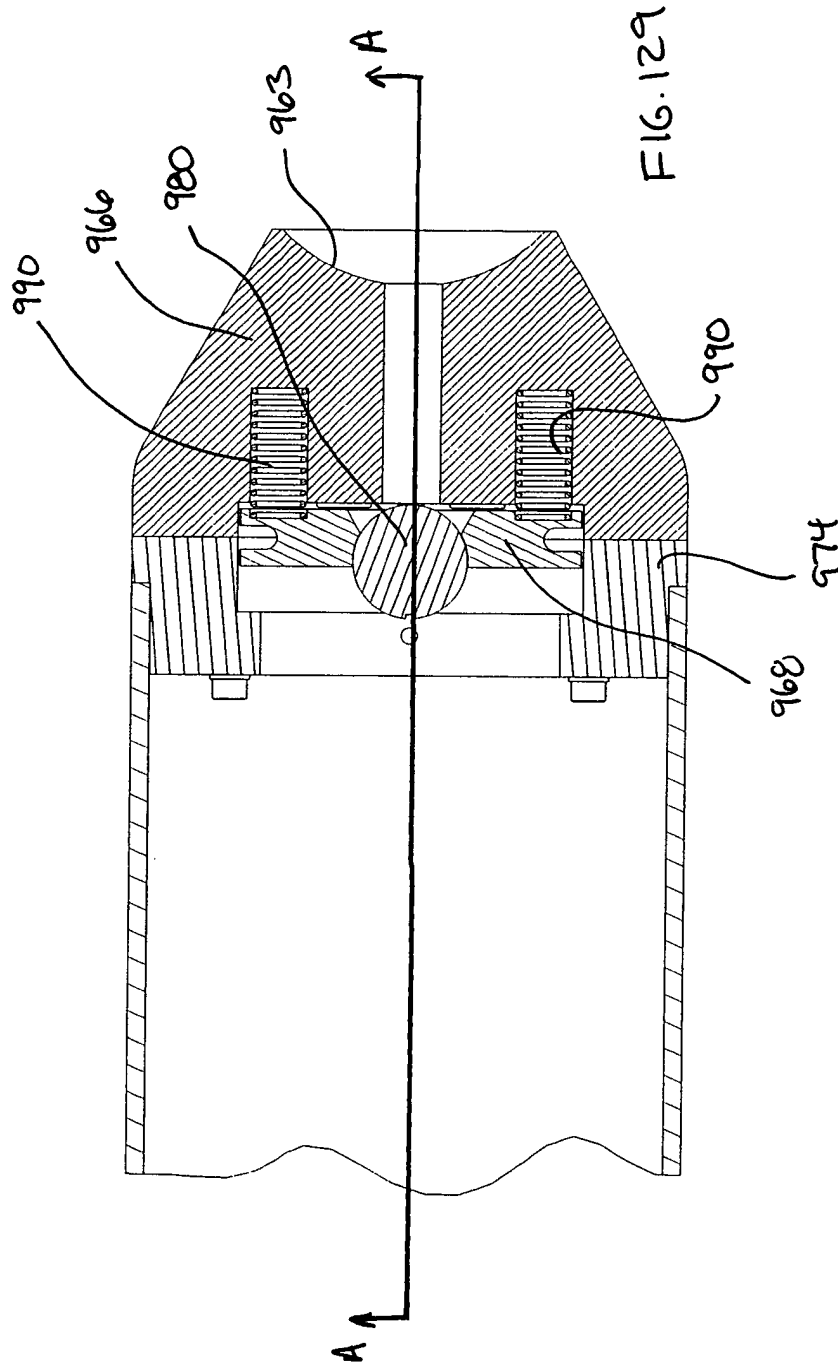
Attorney Docket No.: 034017R004

REPLACEMENT SHEET



Flg. 127





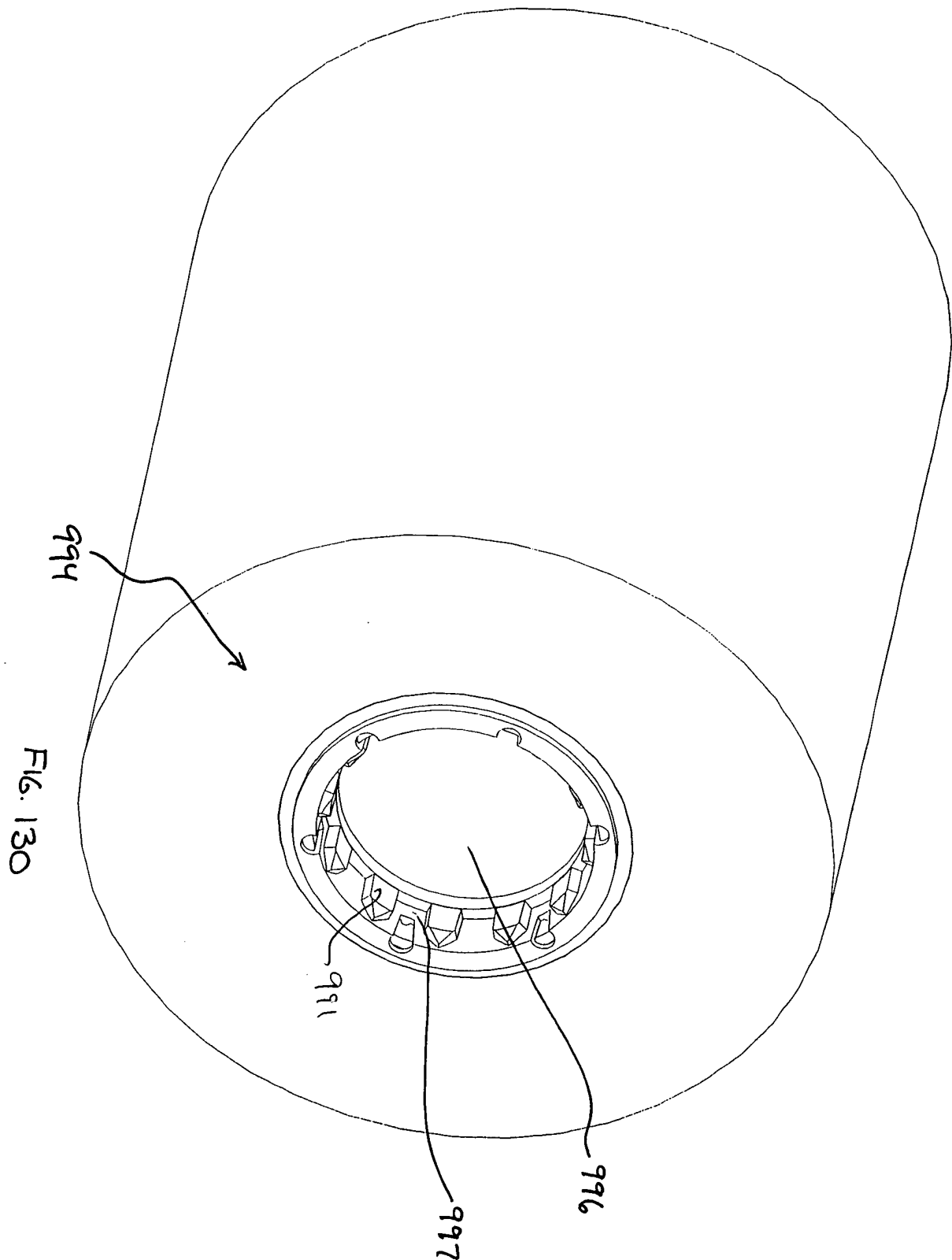
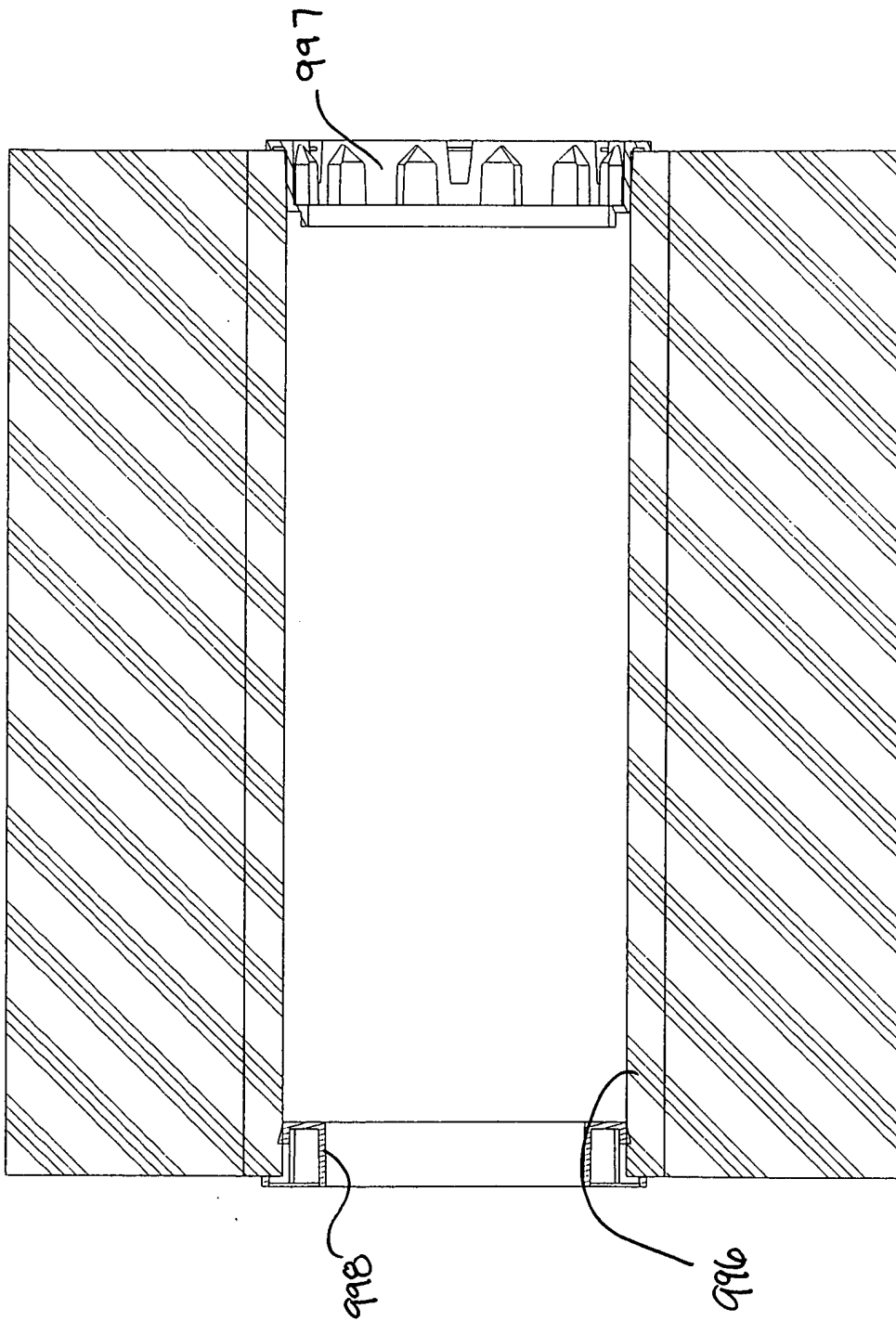
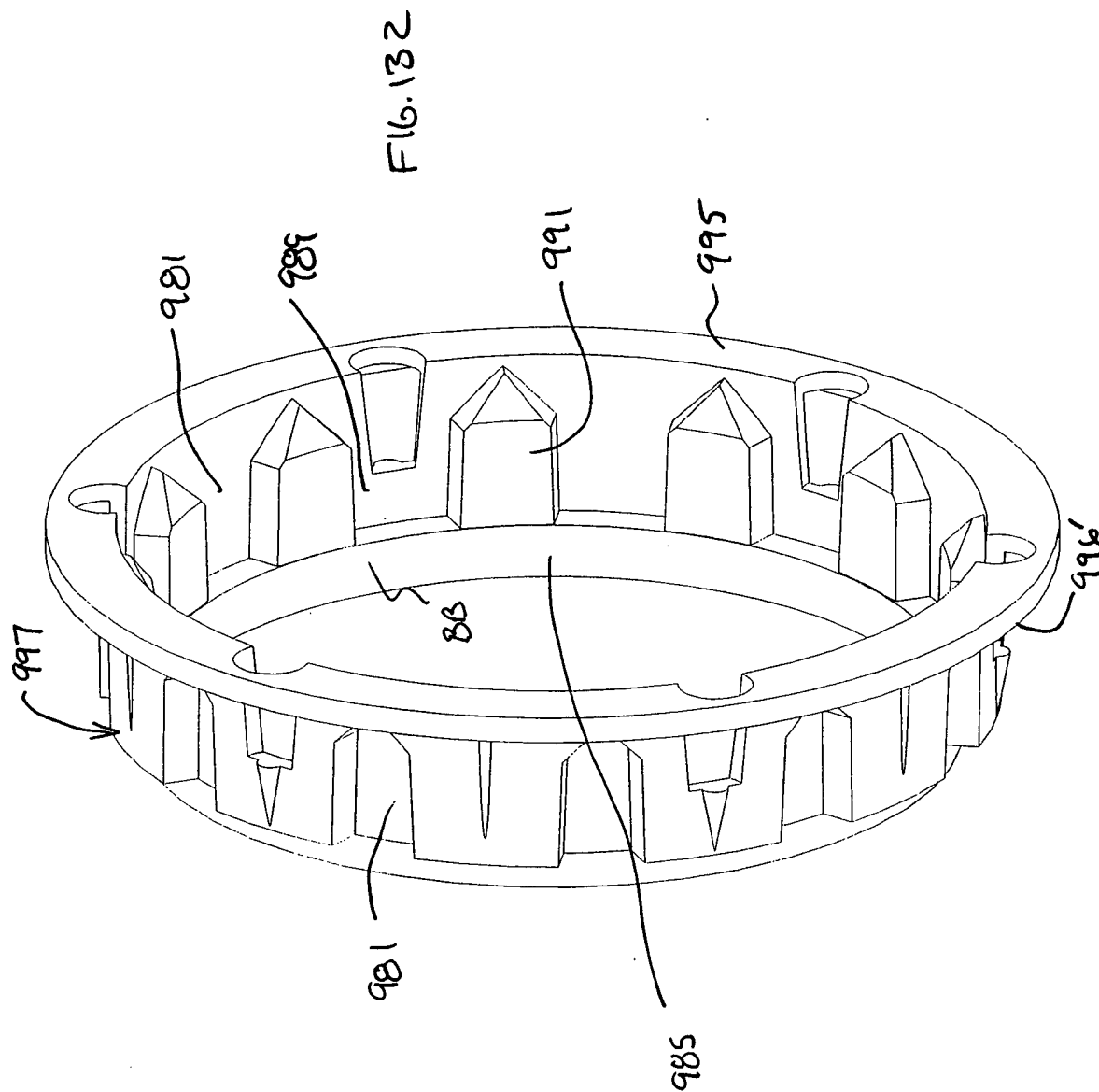
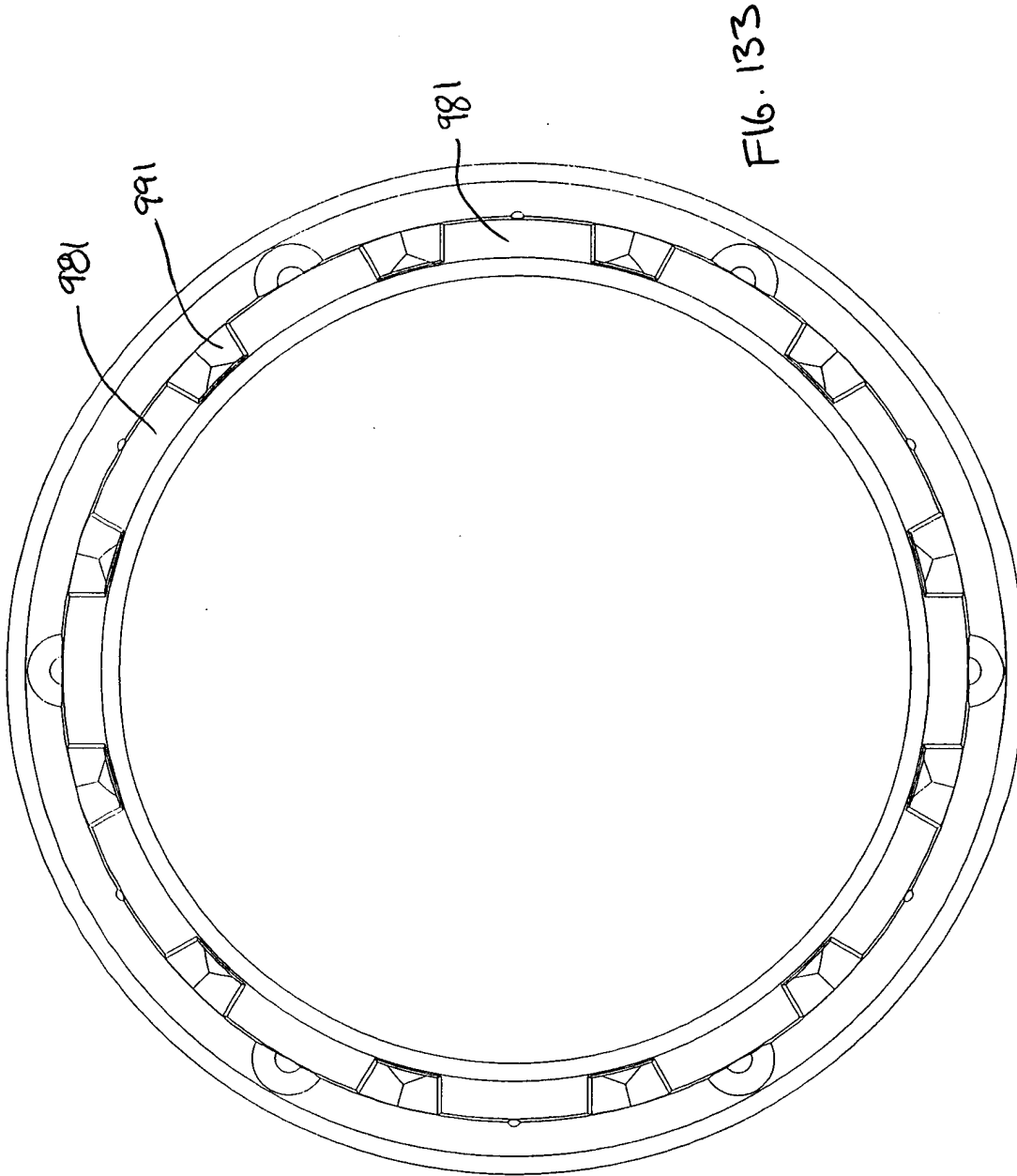
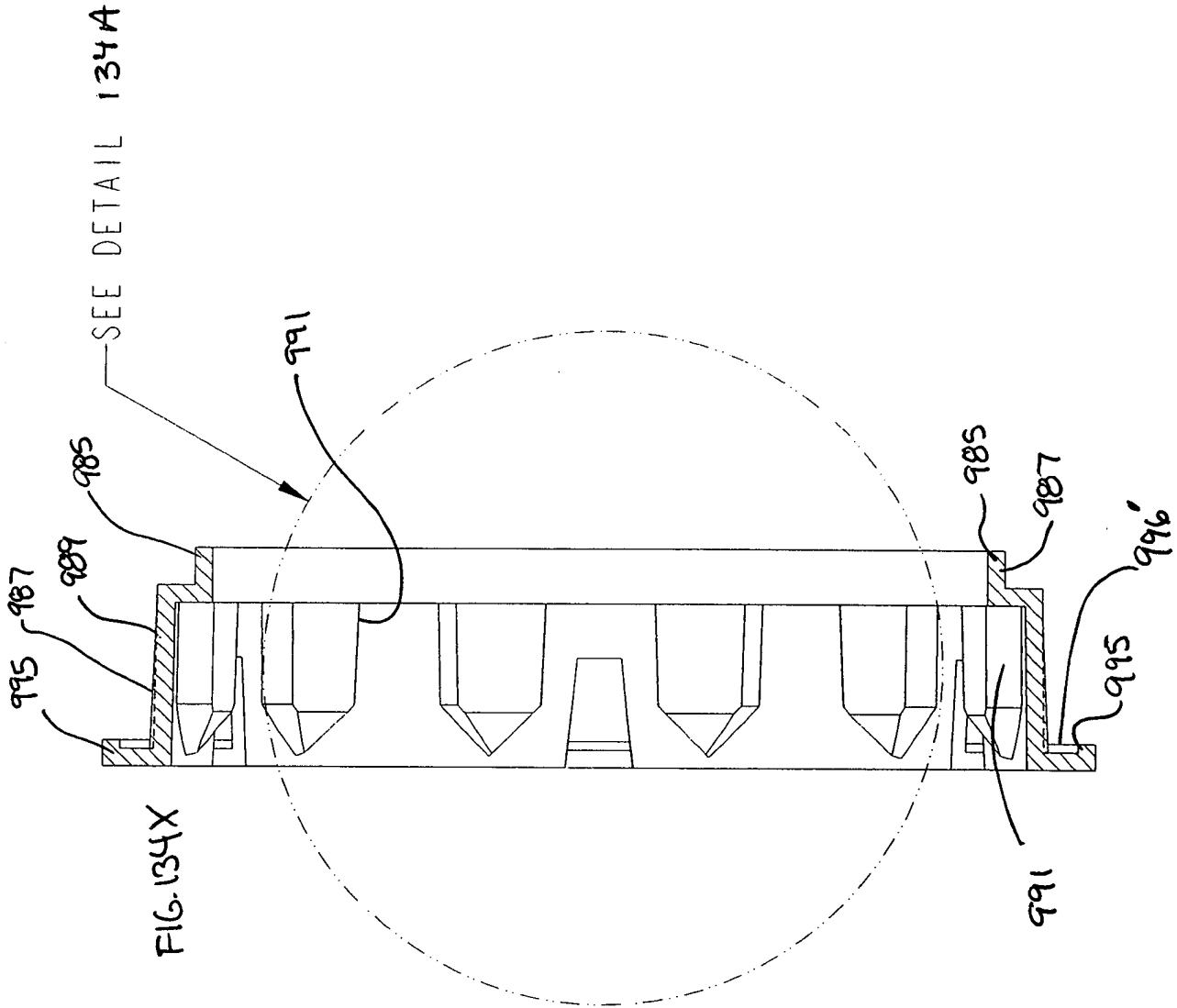


FIG. 131









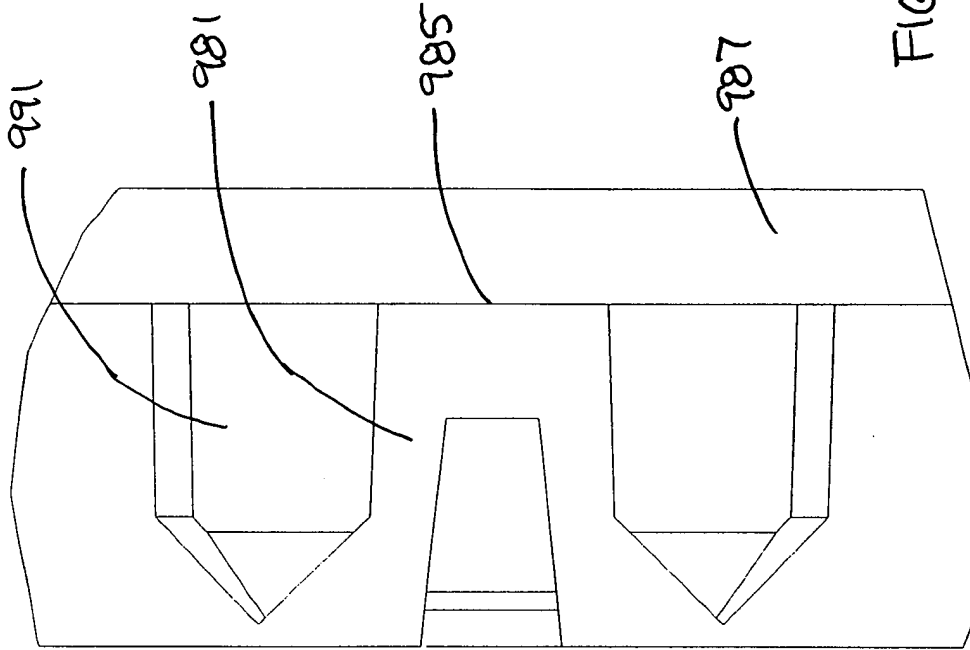
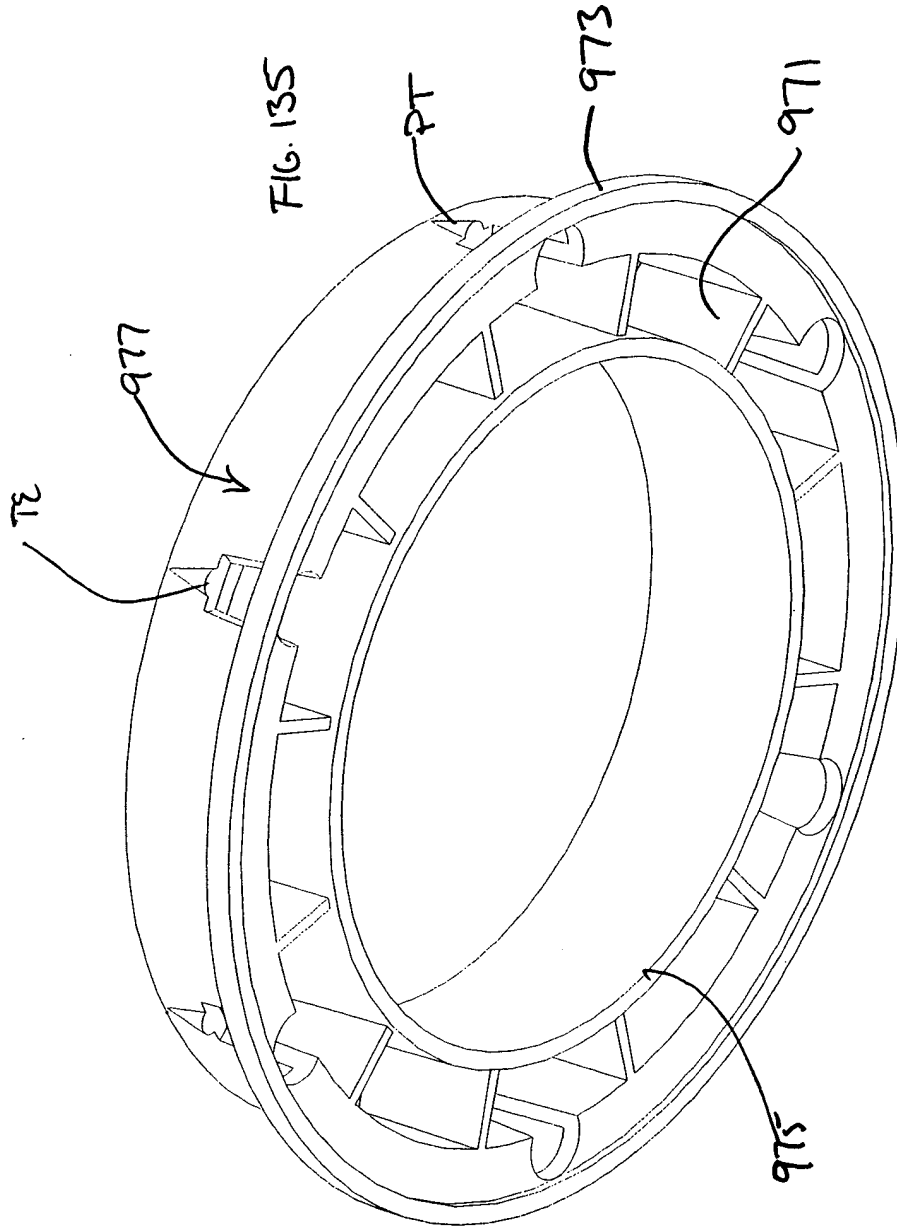


FIG. 134A



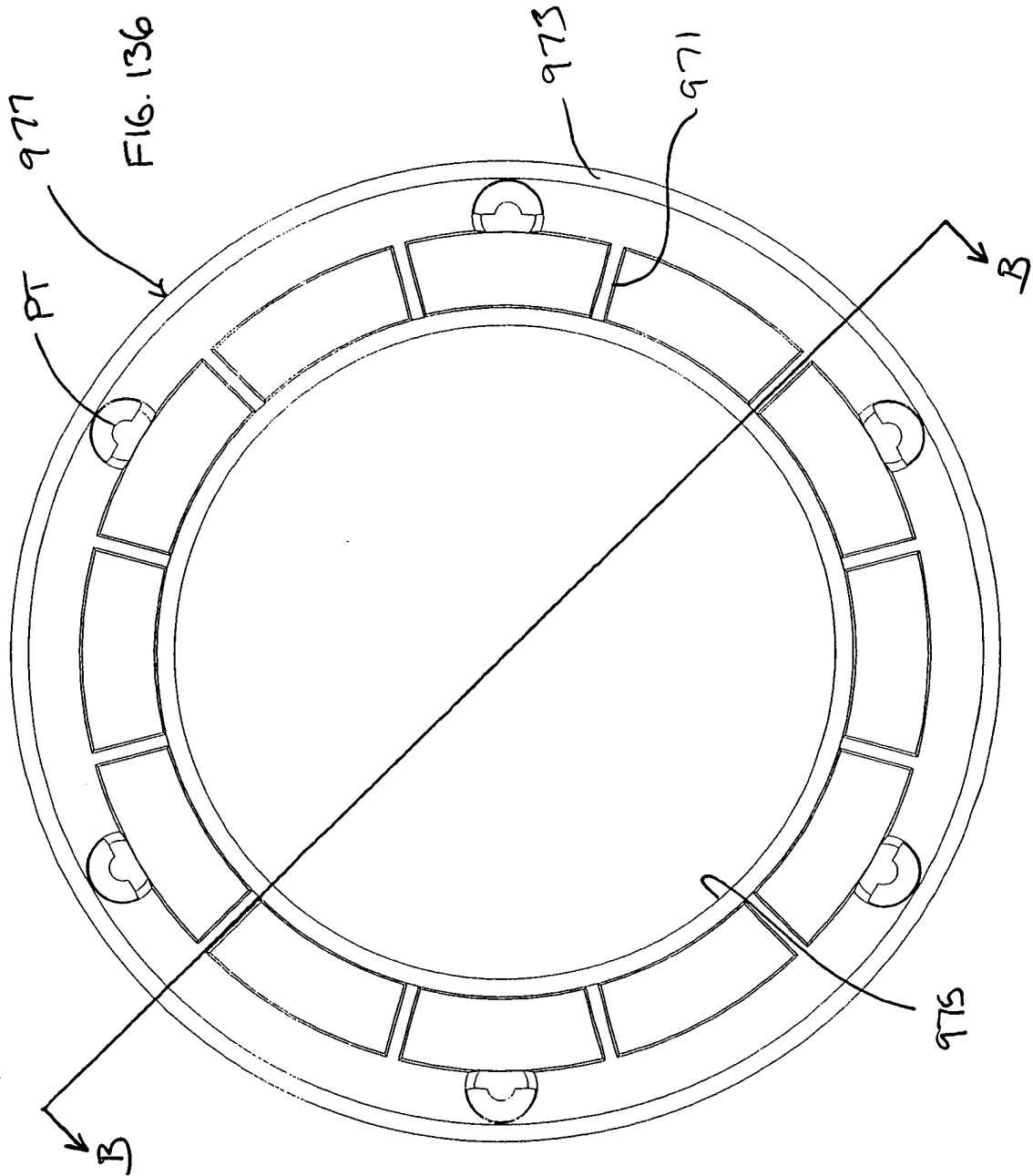
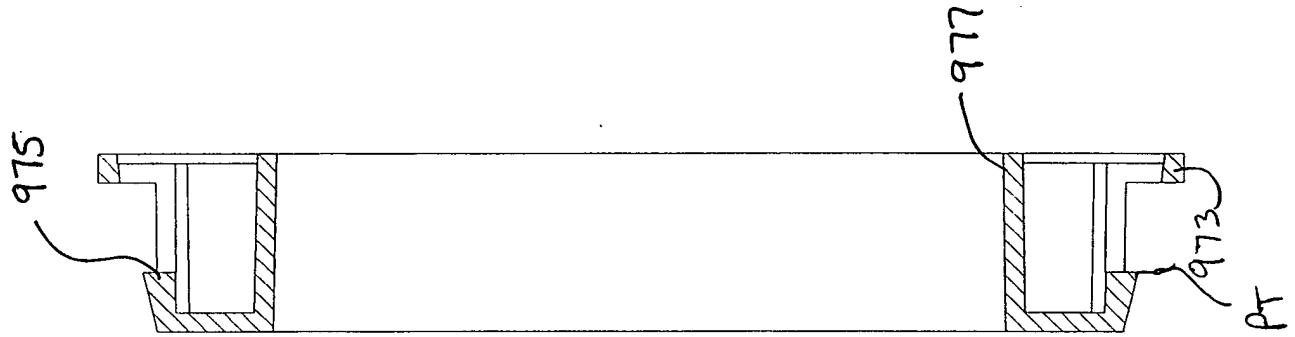
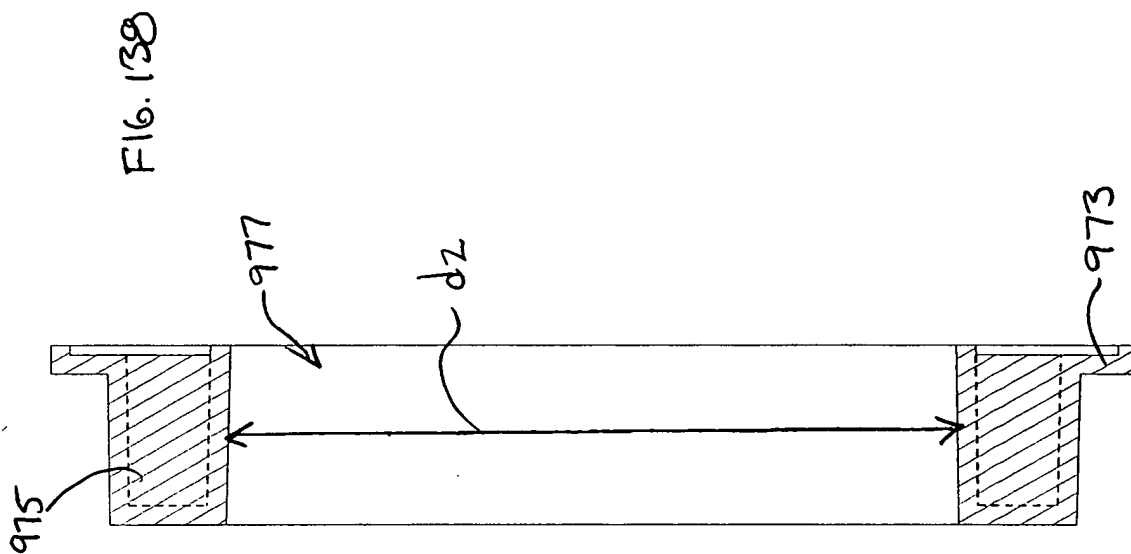
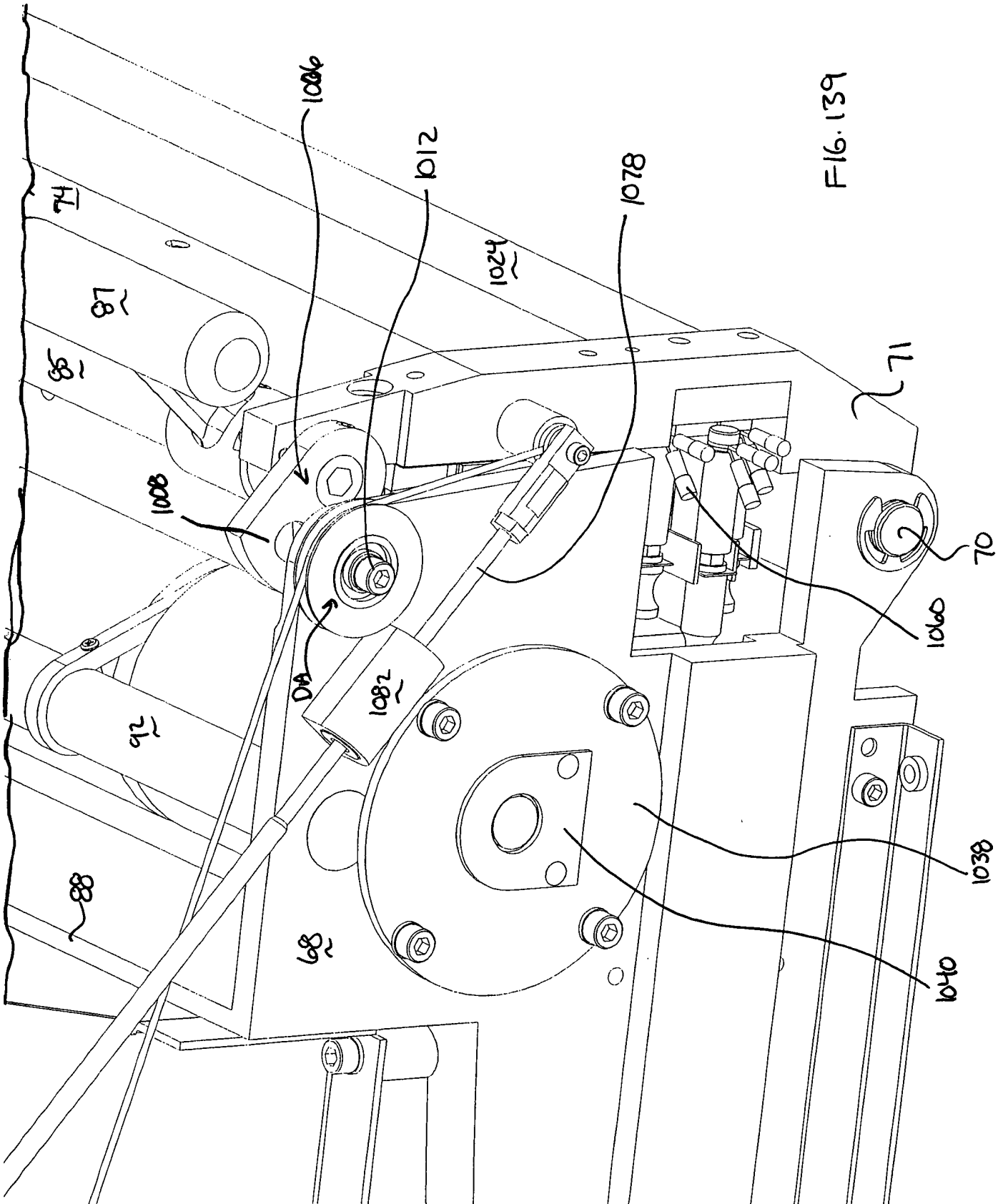


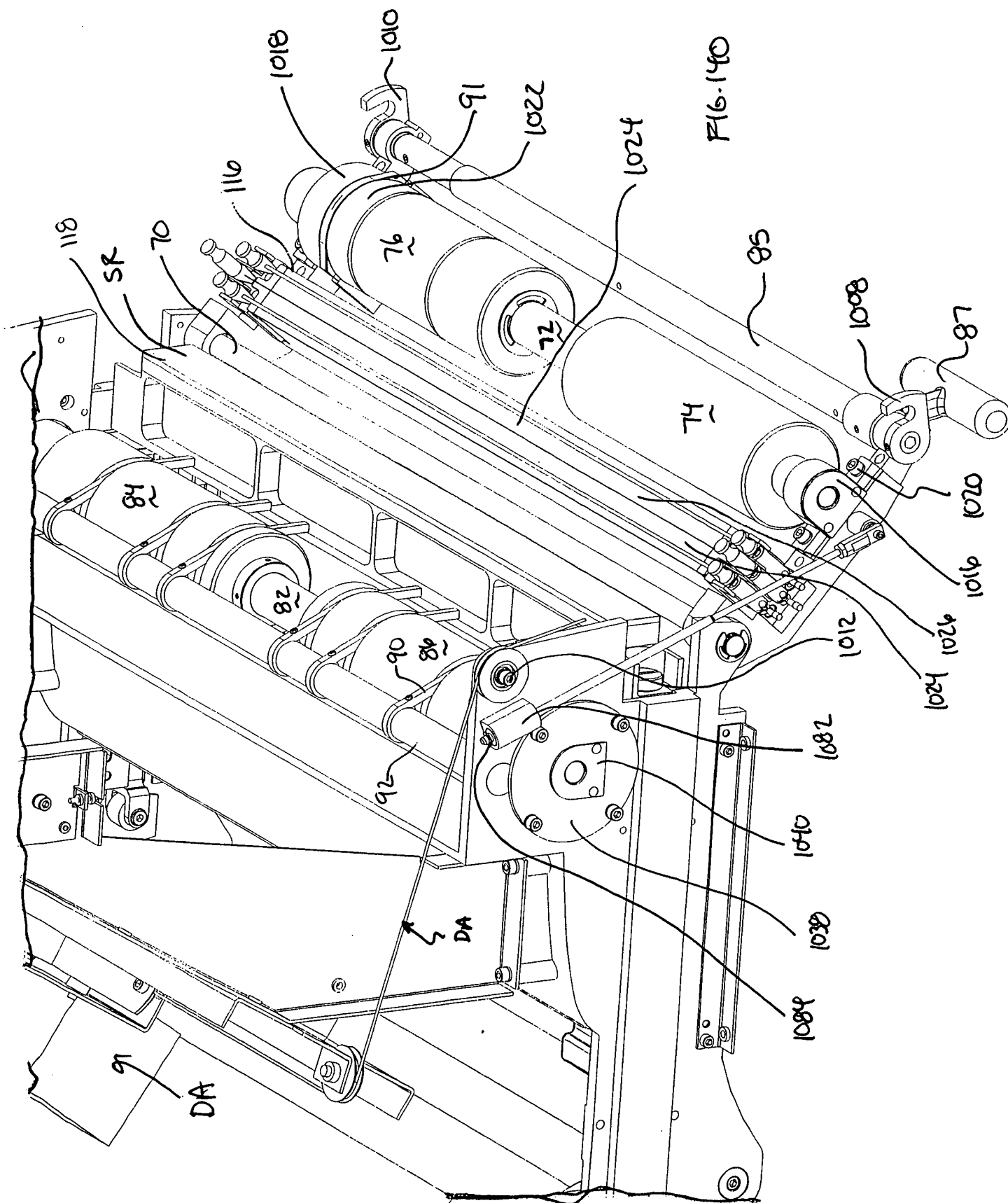
FIG. 137

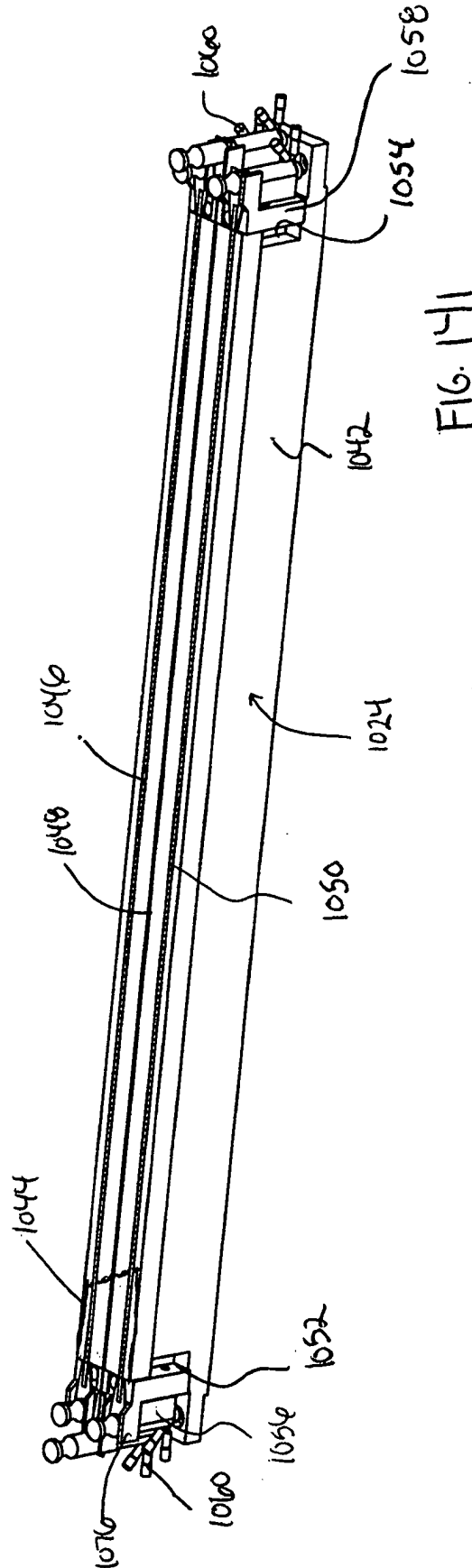


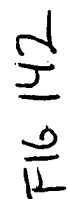




F16.139





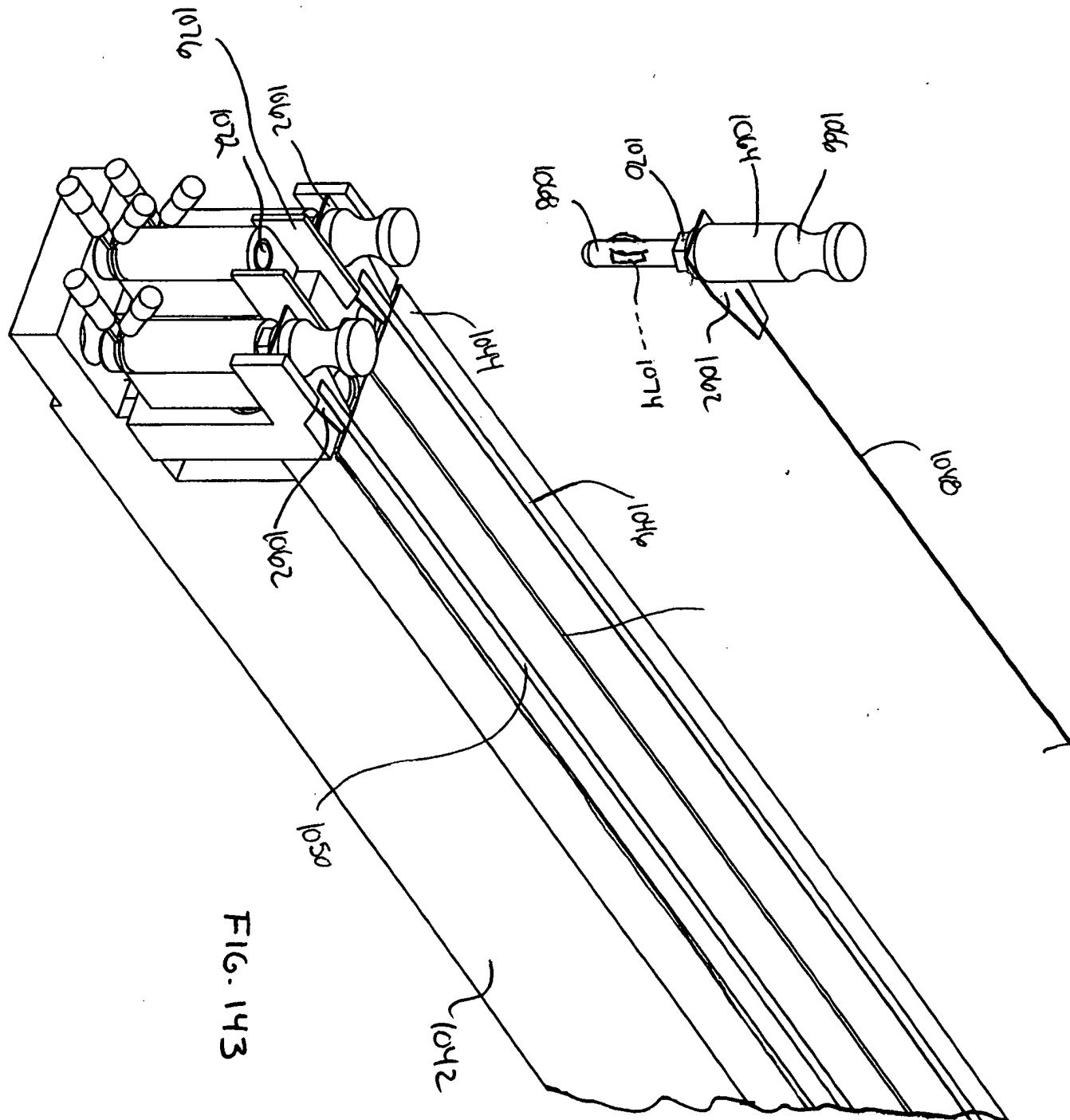


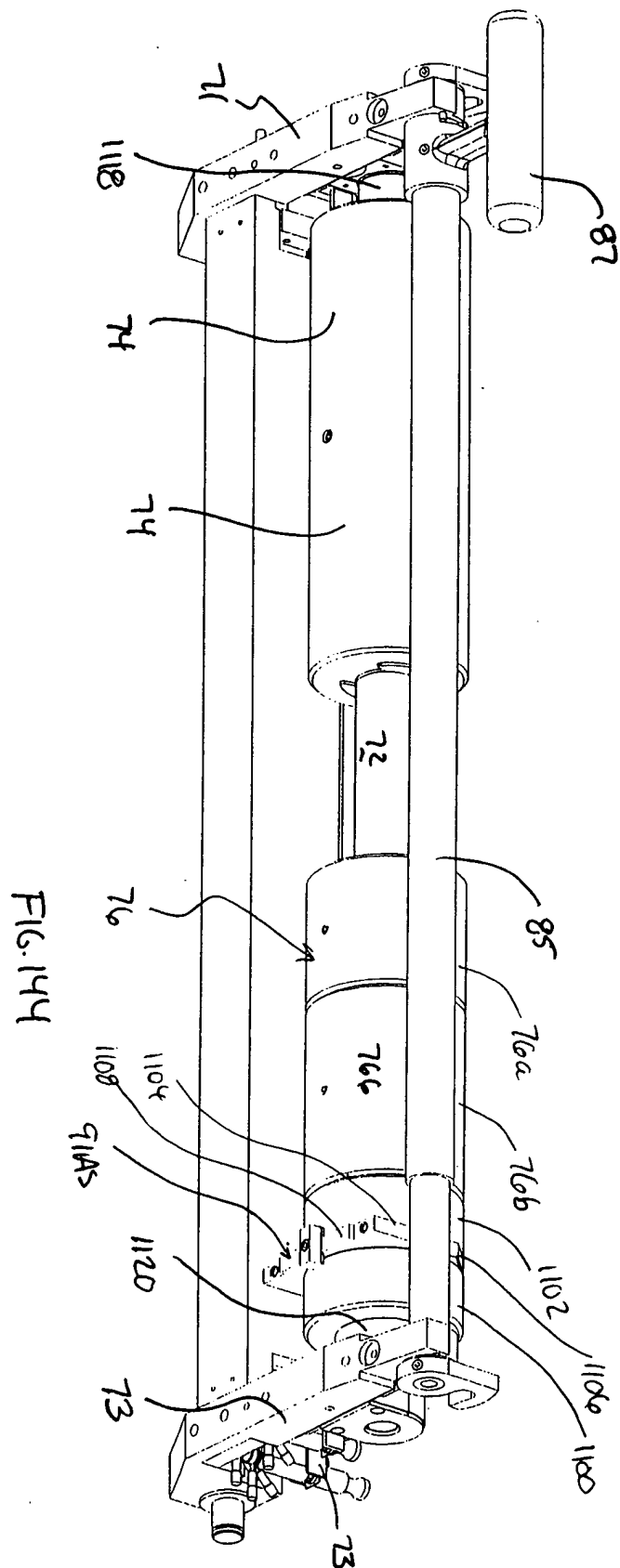
Inventor: George BERTRAM

Title: DISPENSING SYSTEM WITH IN LINE CHEMICAL PUMP SYSTEM

Attorney Docket No.: 034017R004

REPLACEMENT SHEET





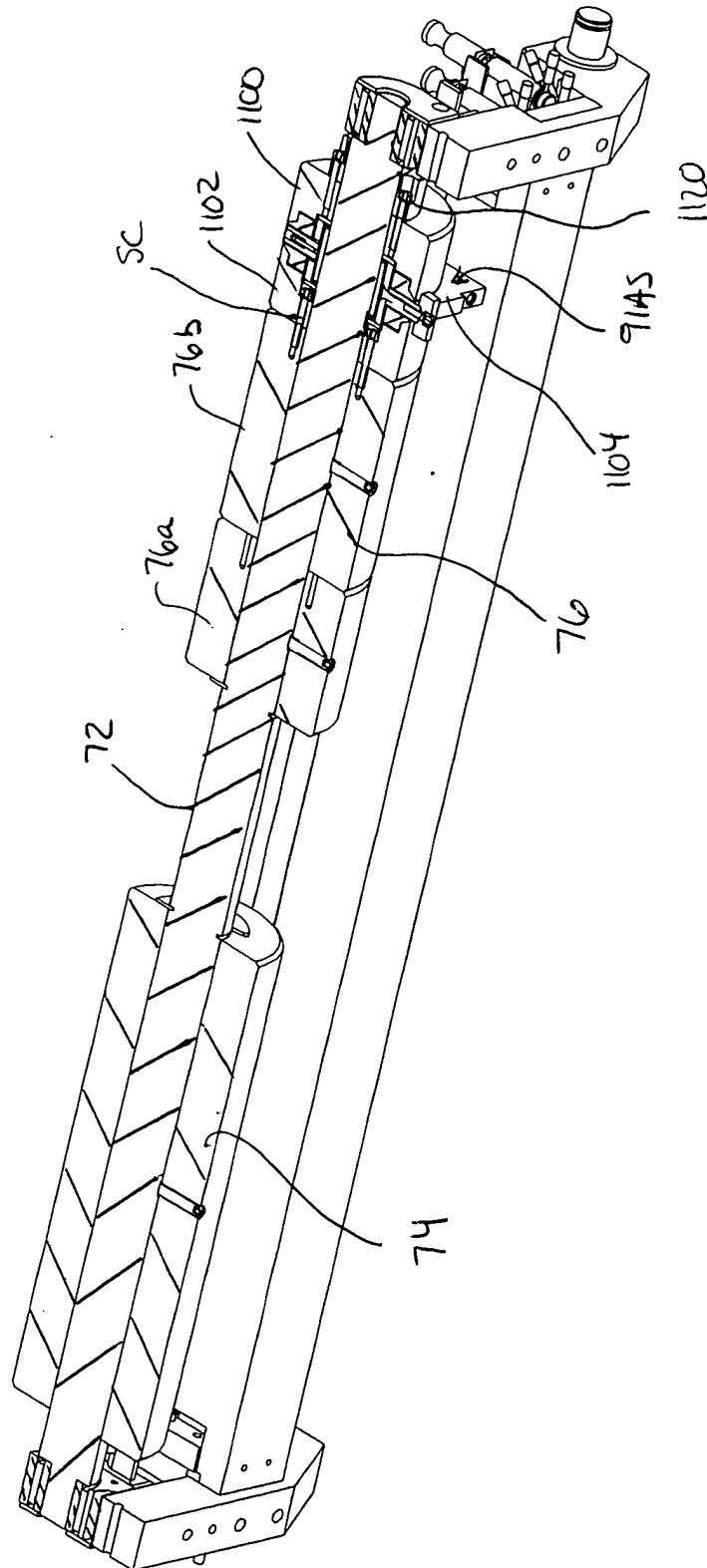
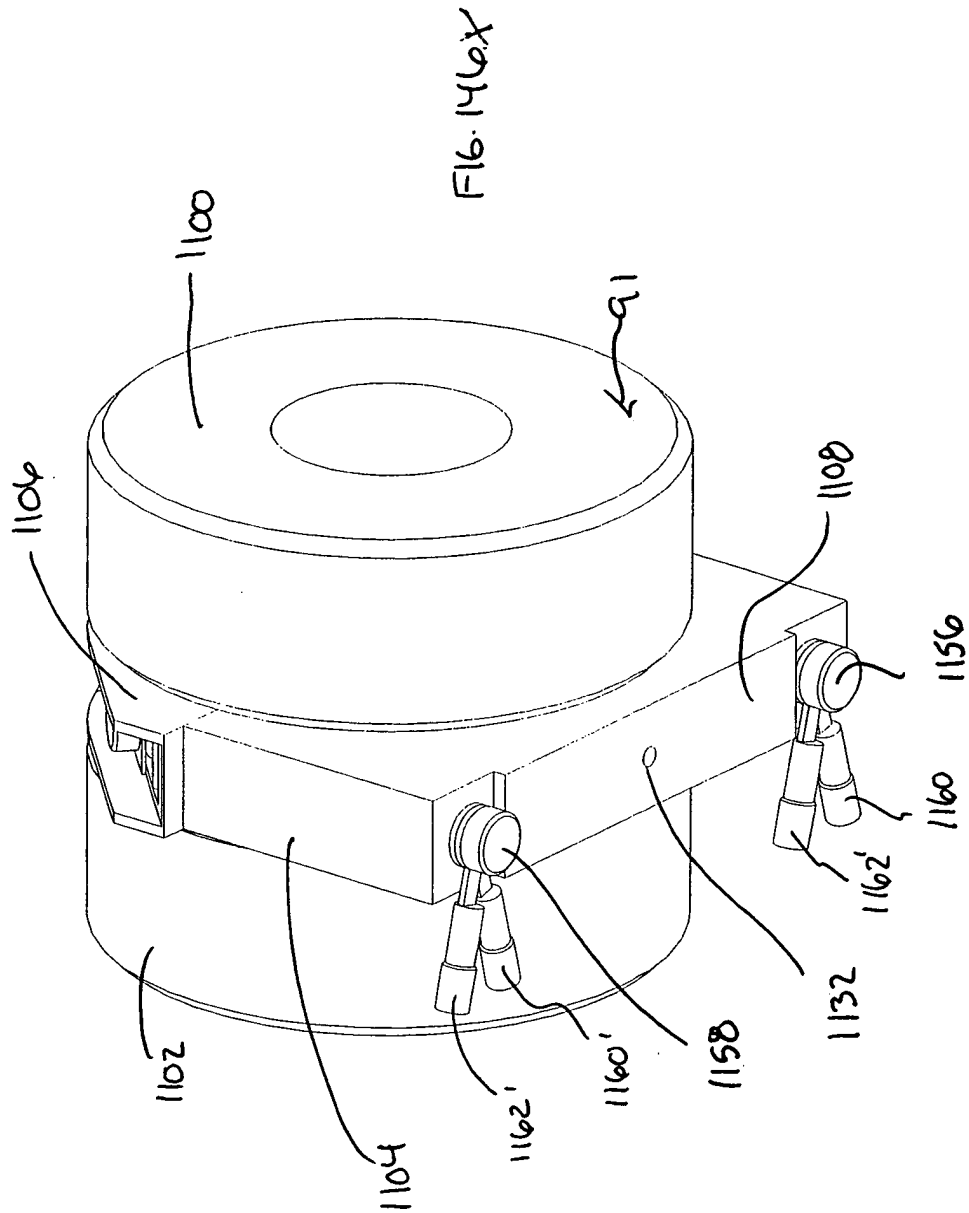
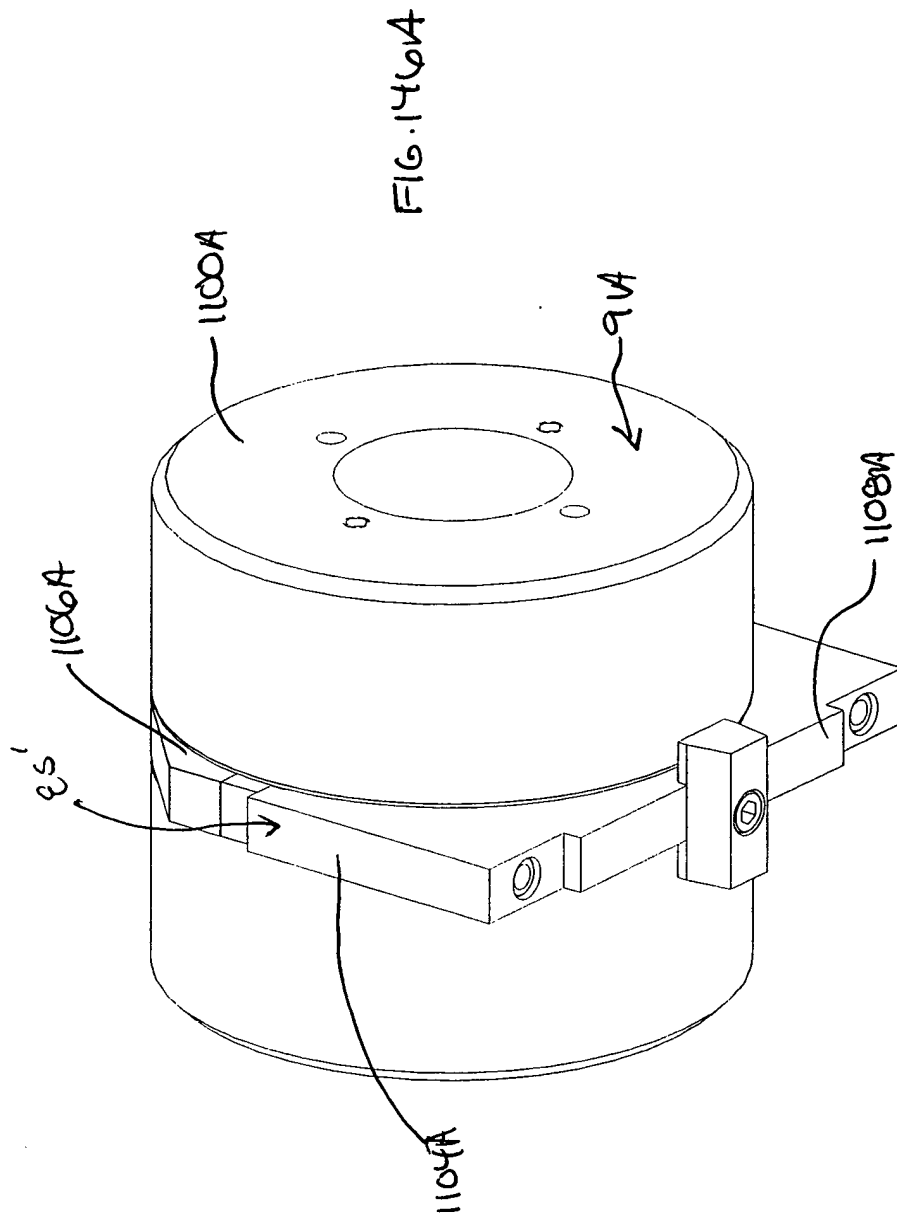
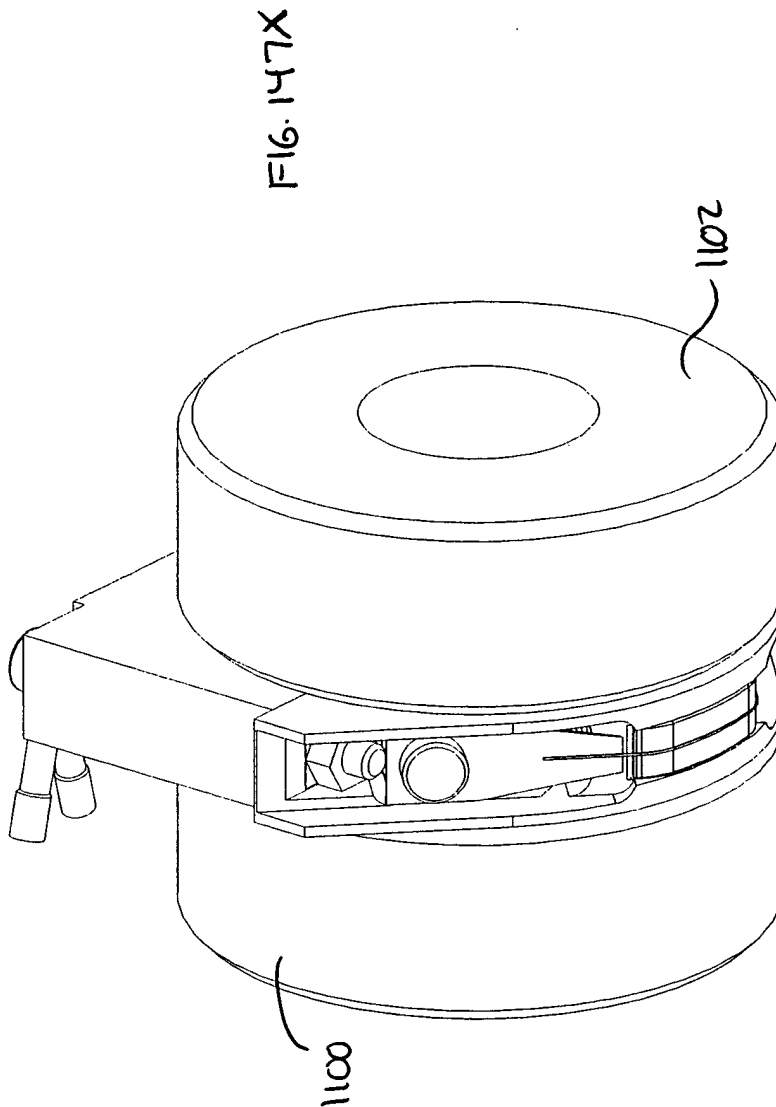
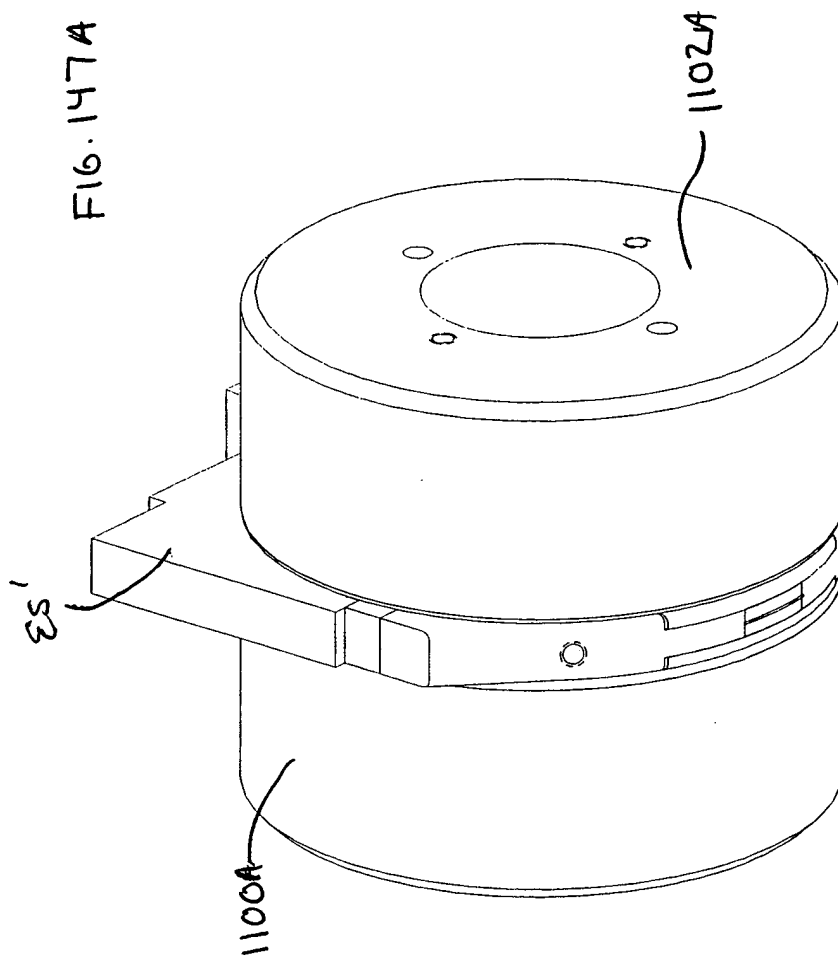


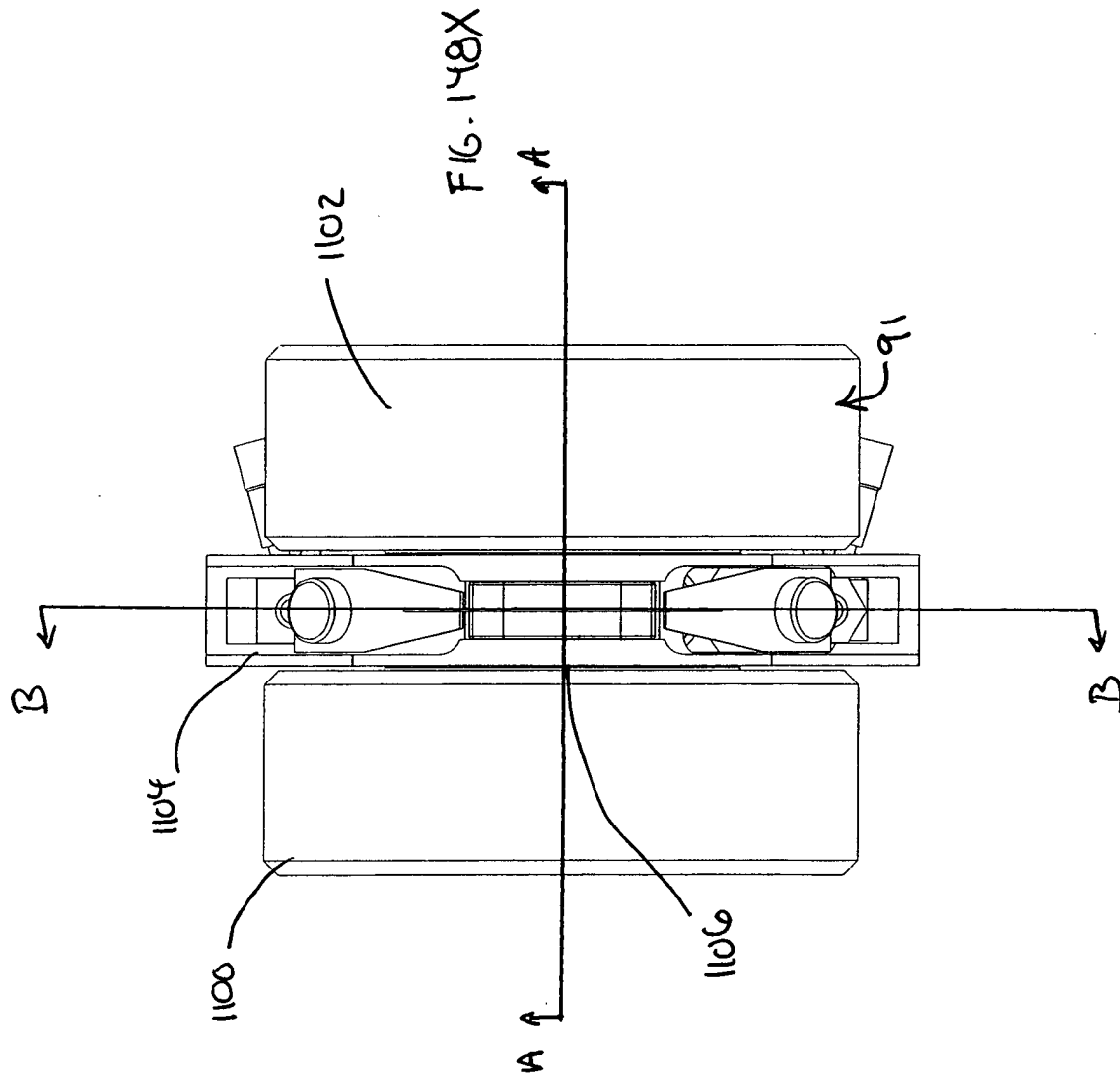
FIG. 145

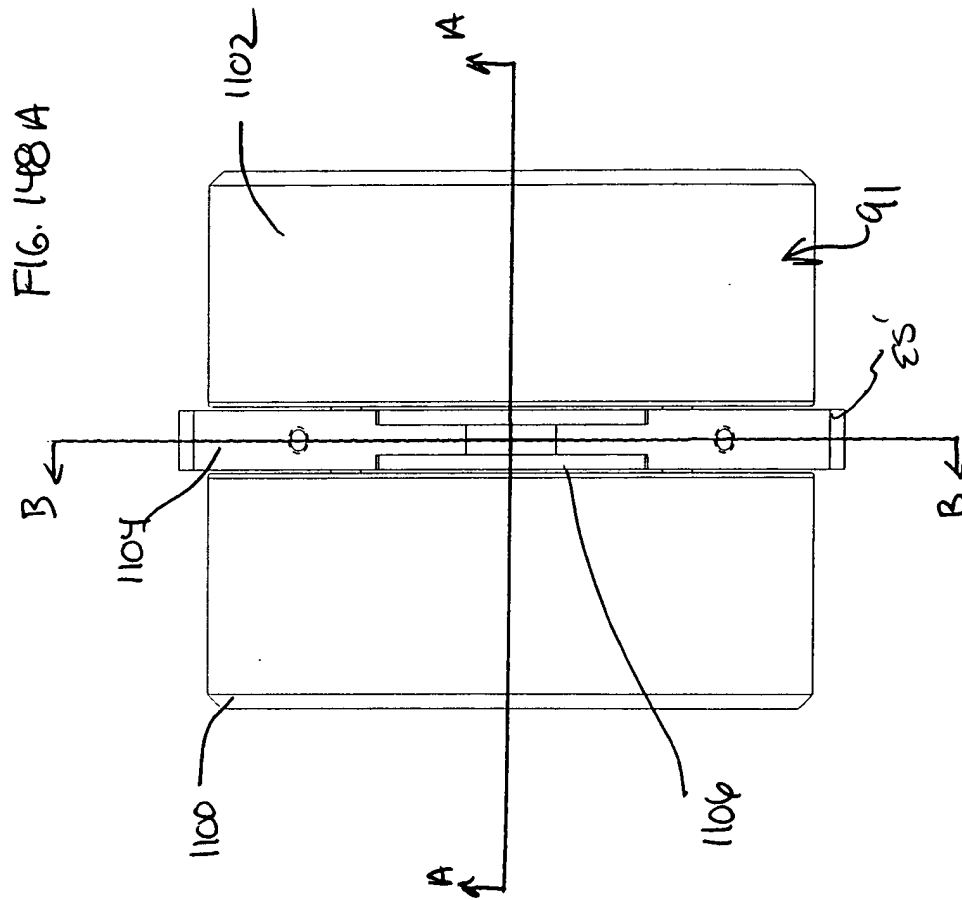












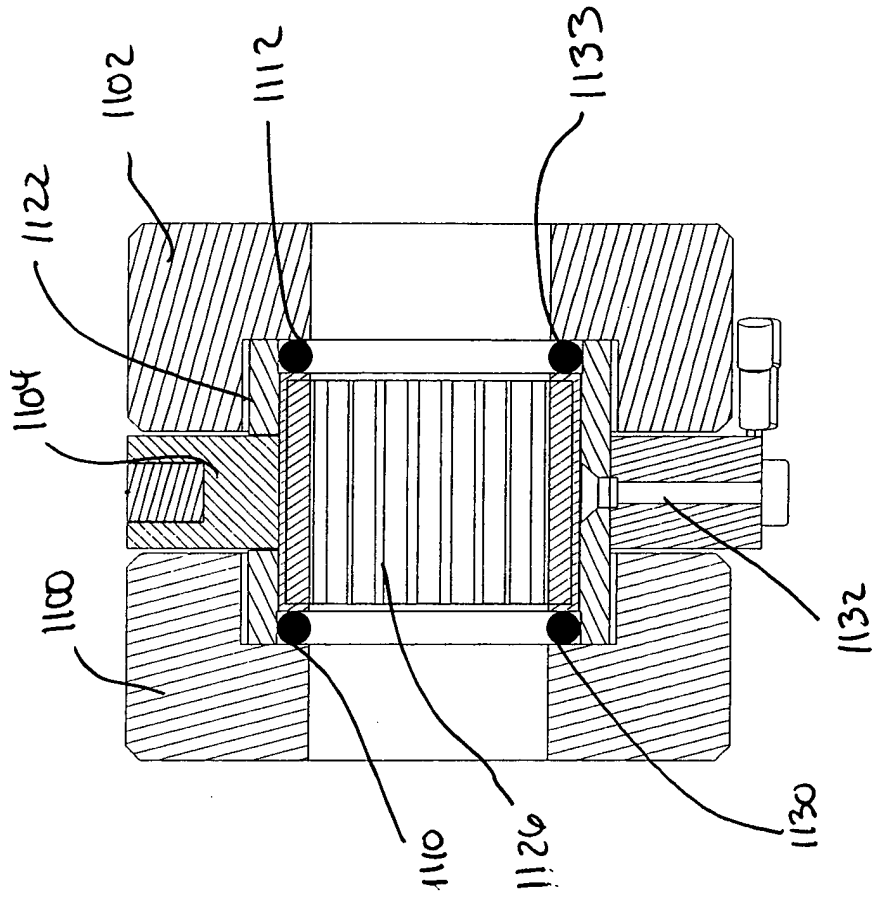
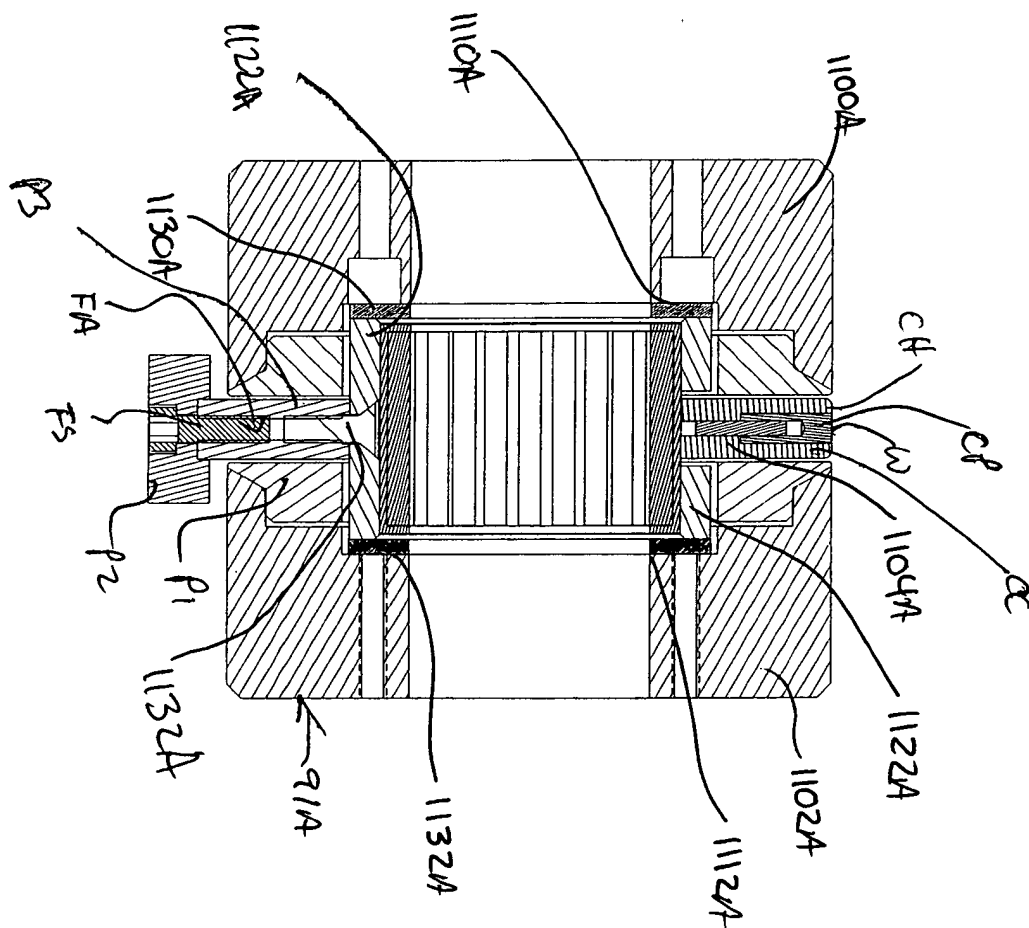


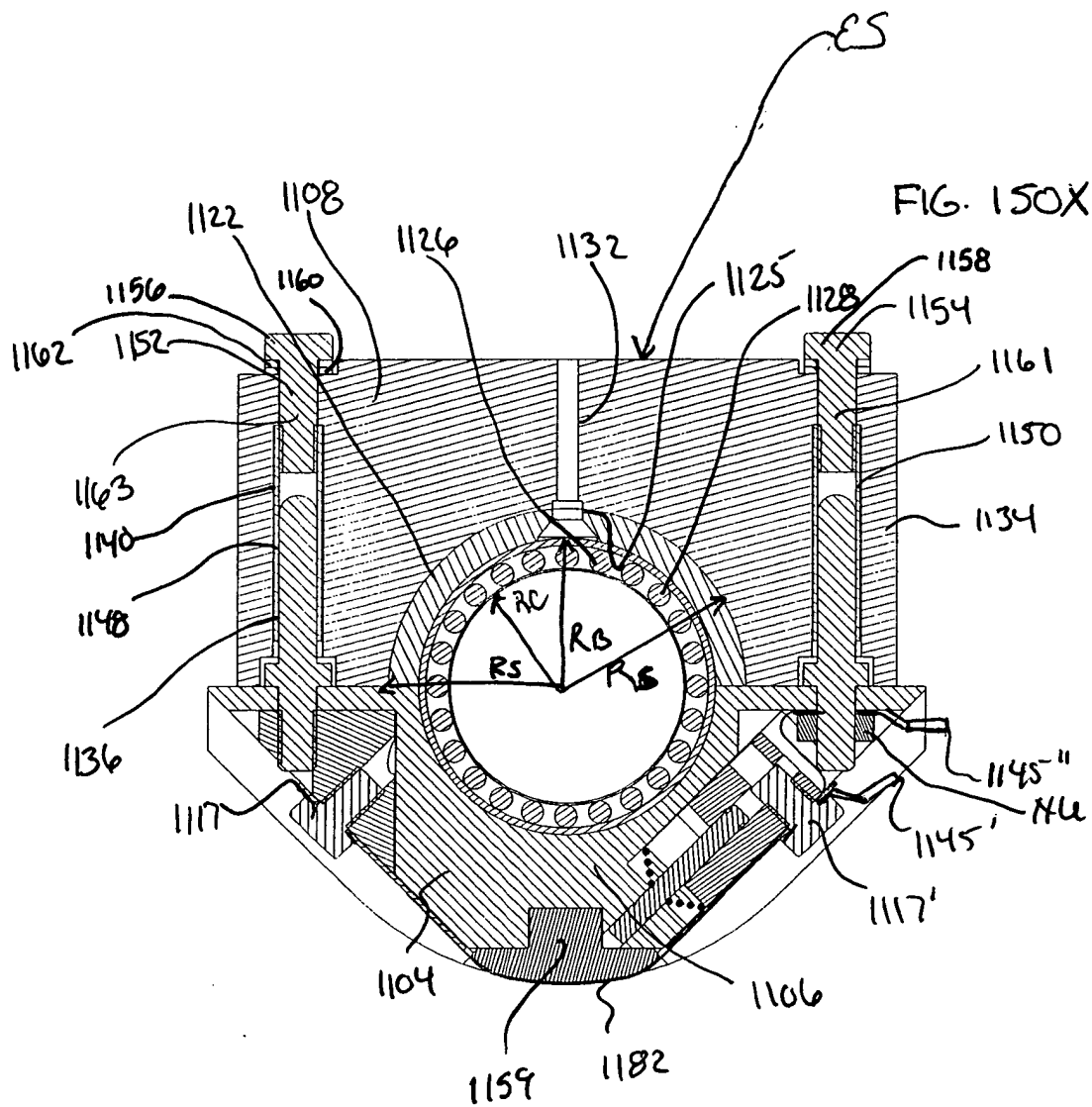
FIG. 149X

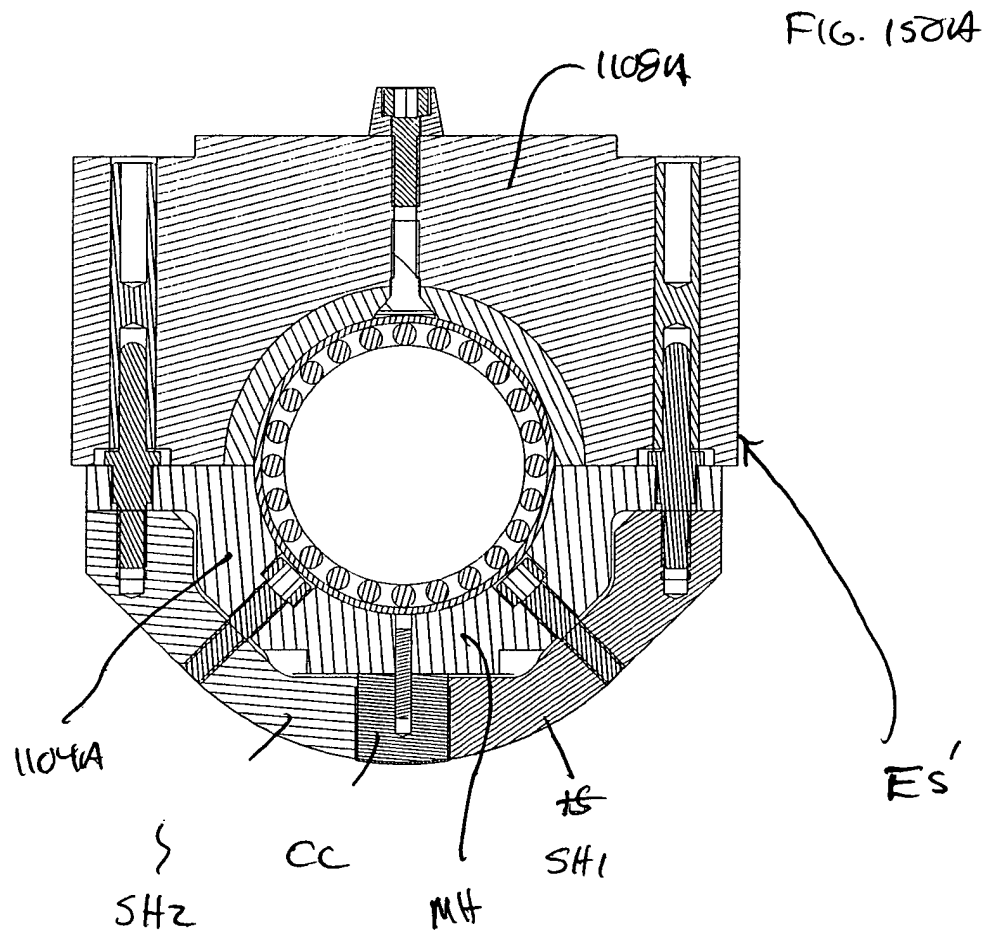
Inventor: George BERTRAM

Title: DISPENSING SYSTEM WITH IN LINE CHEMICAL PUMP SYSTEM
Attorney Docket No.: 034017R004
REPLACEMENT SHEET



F16-149A





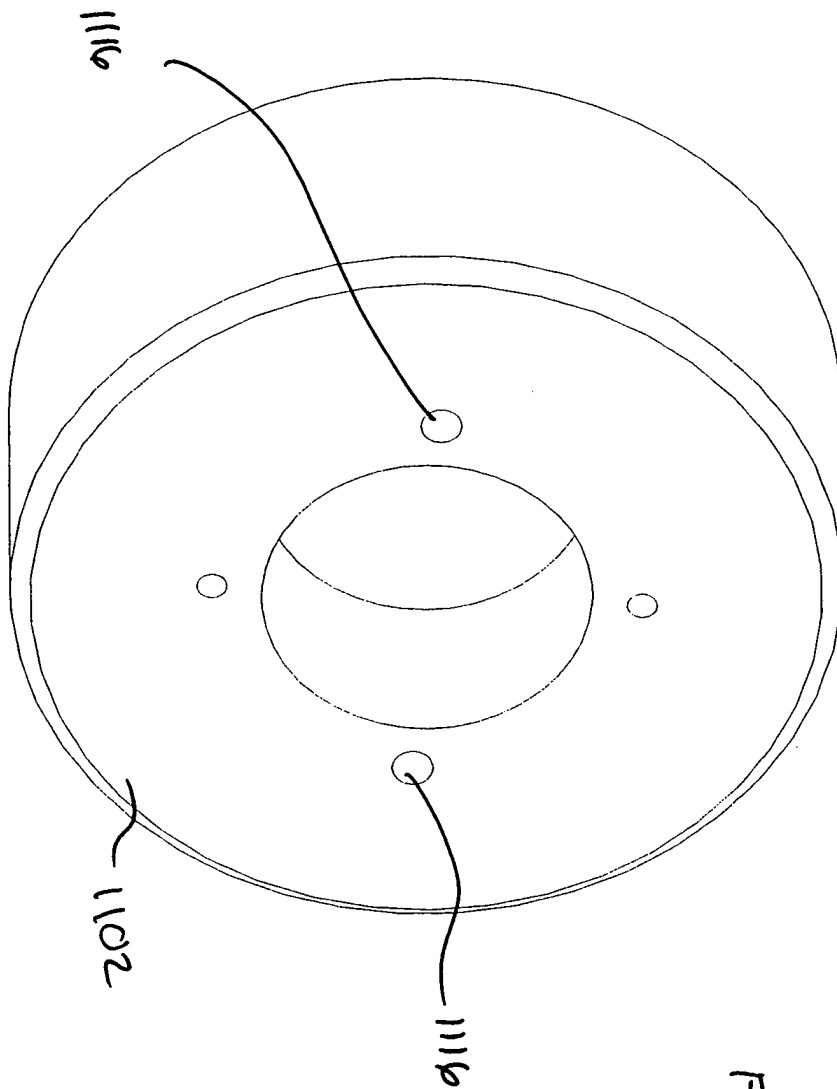
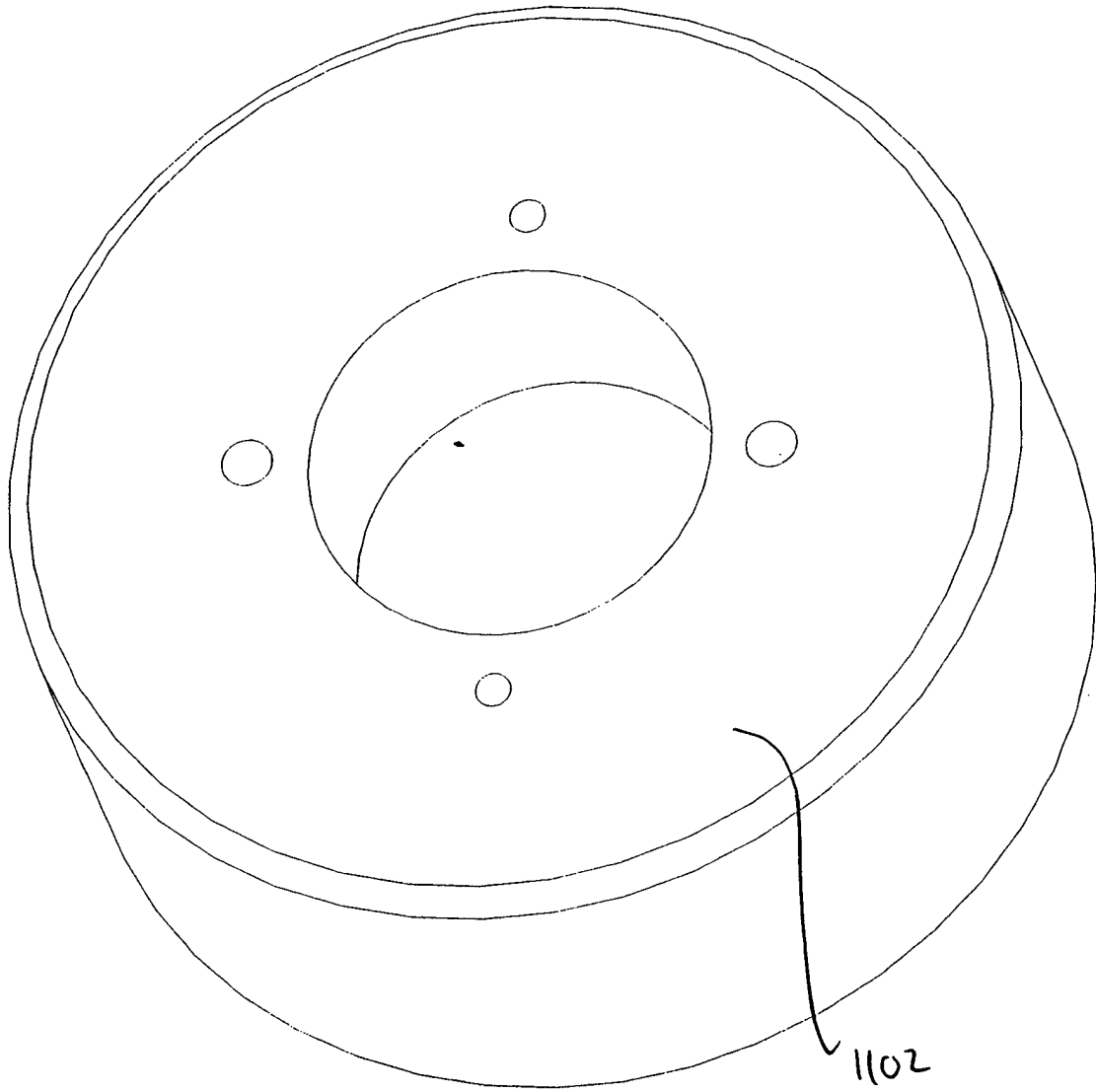


FIG. 15 IX

FIG. 151A



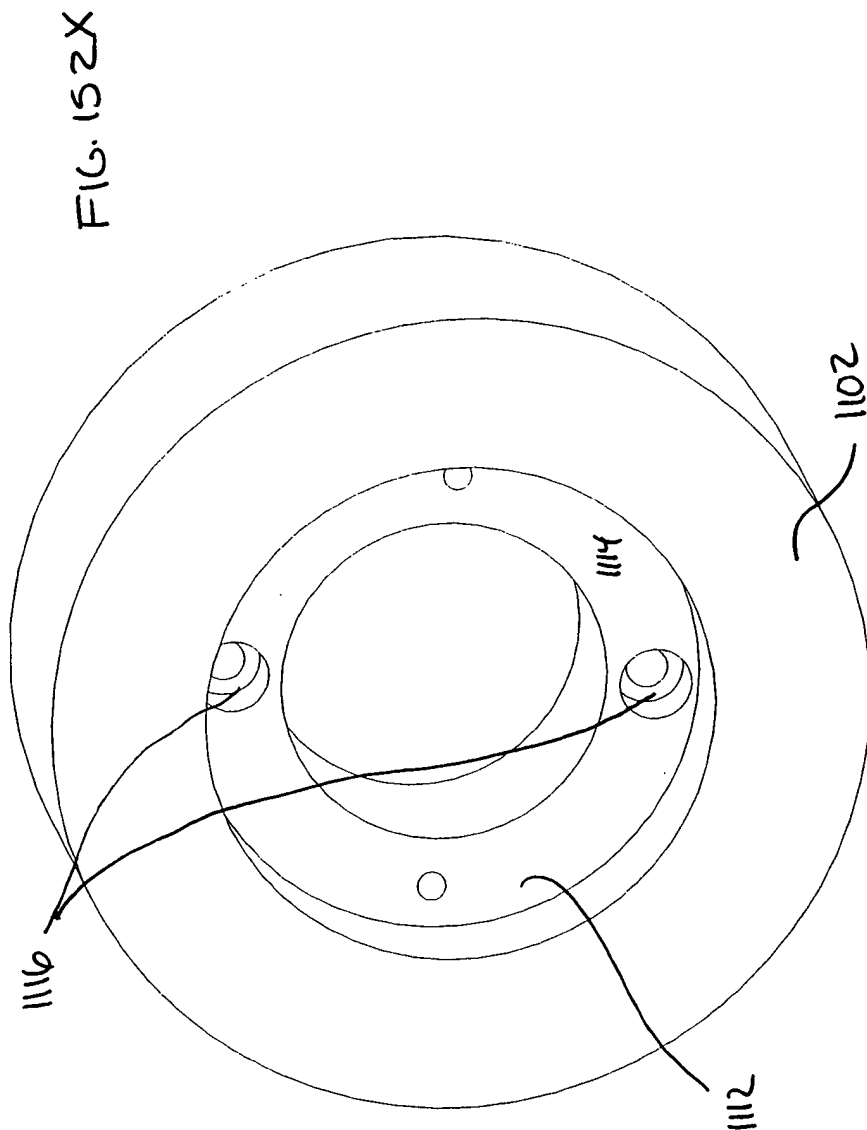
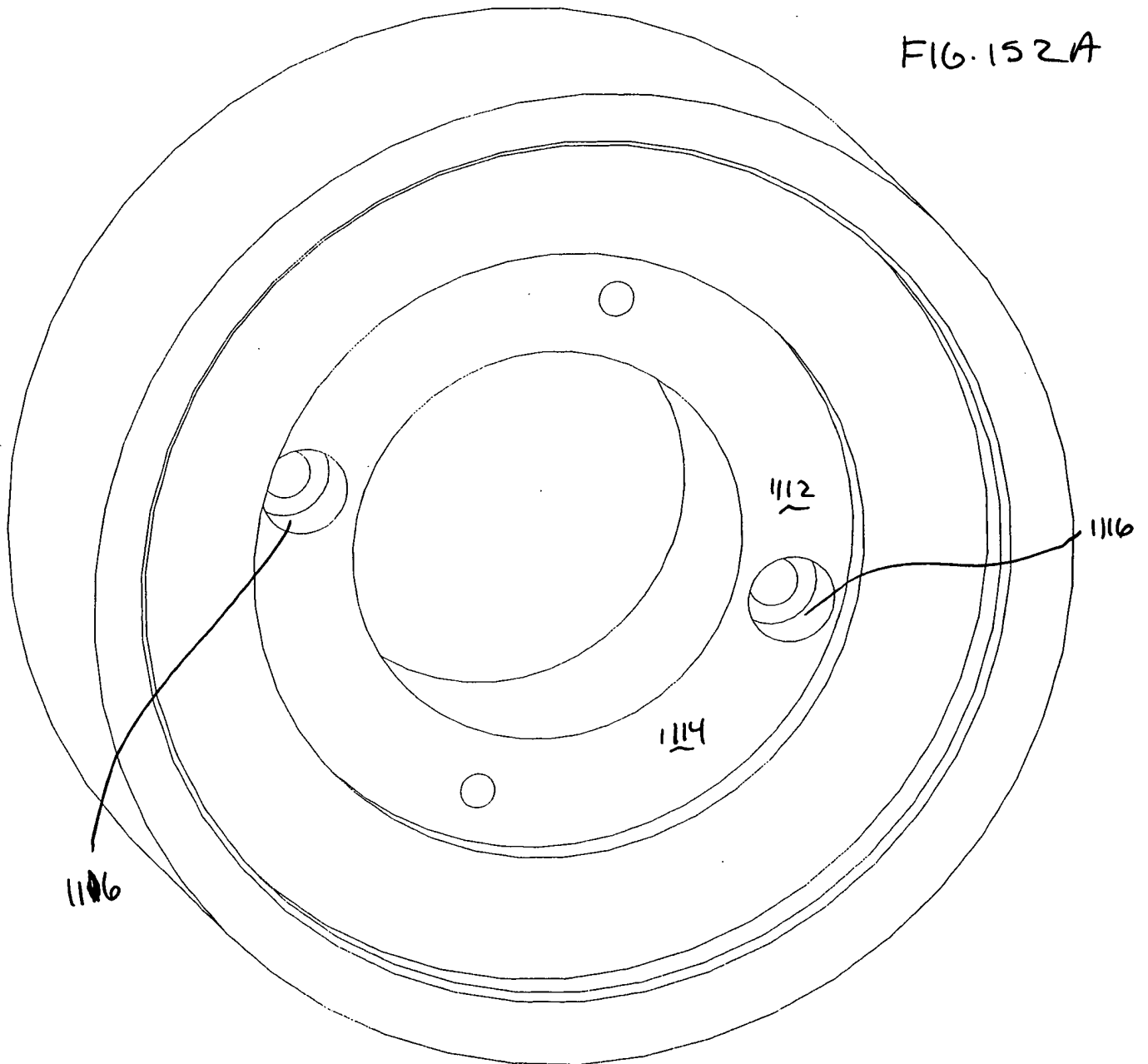
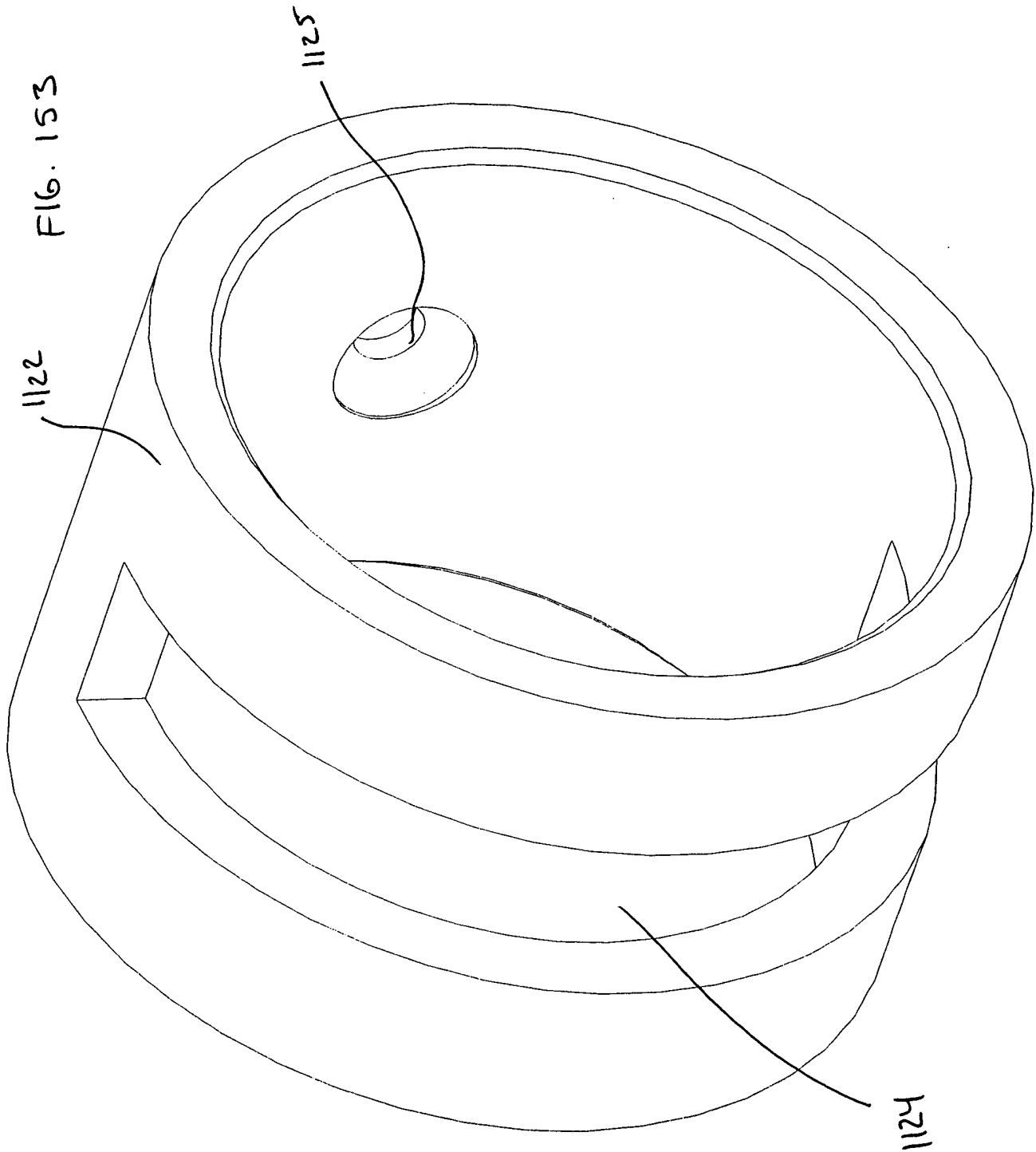


FIG. 152A





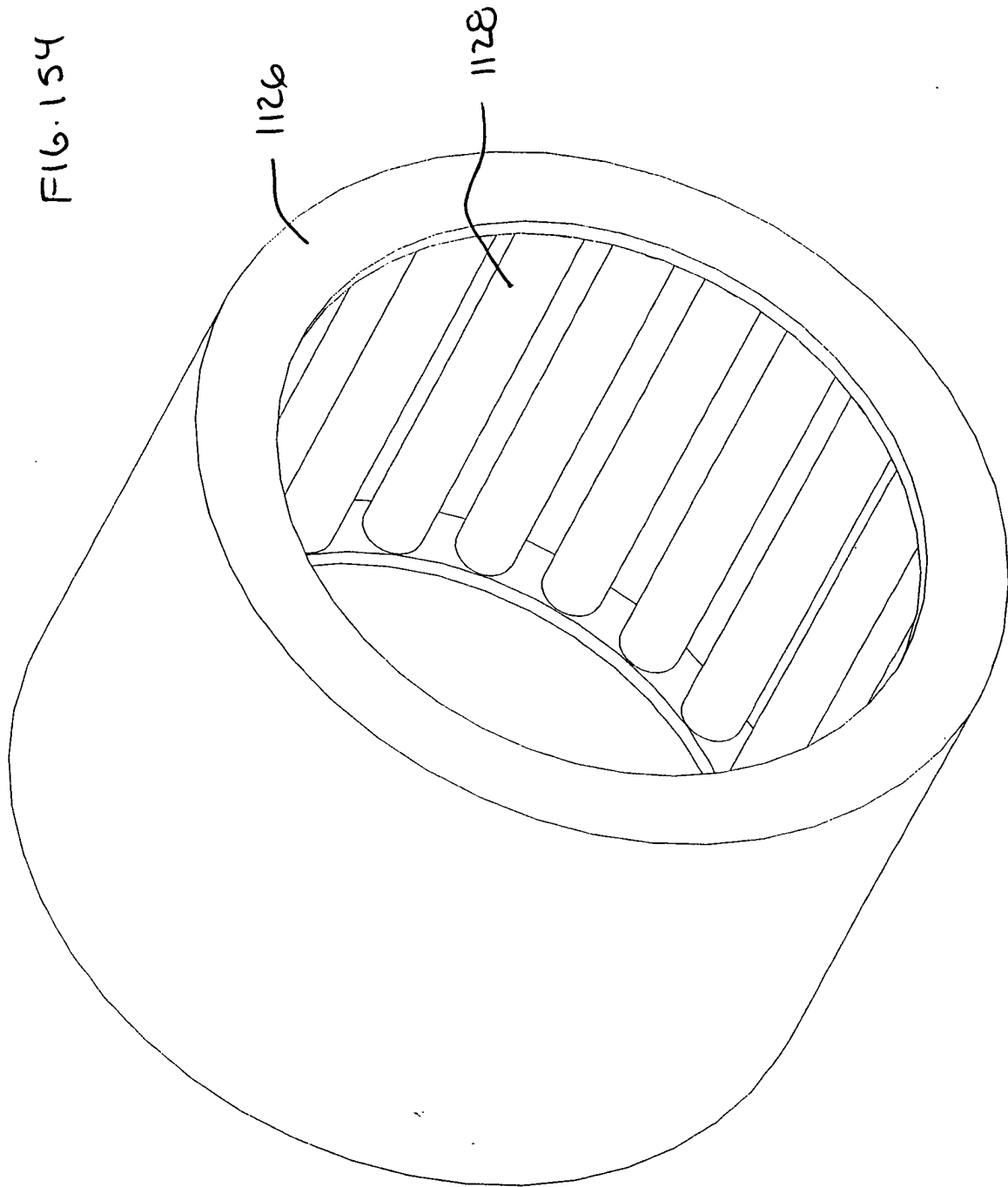
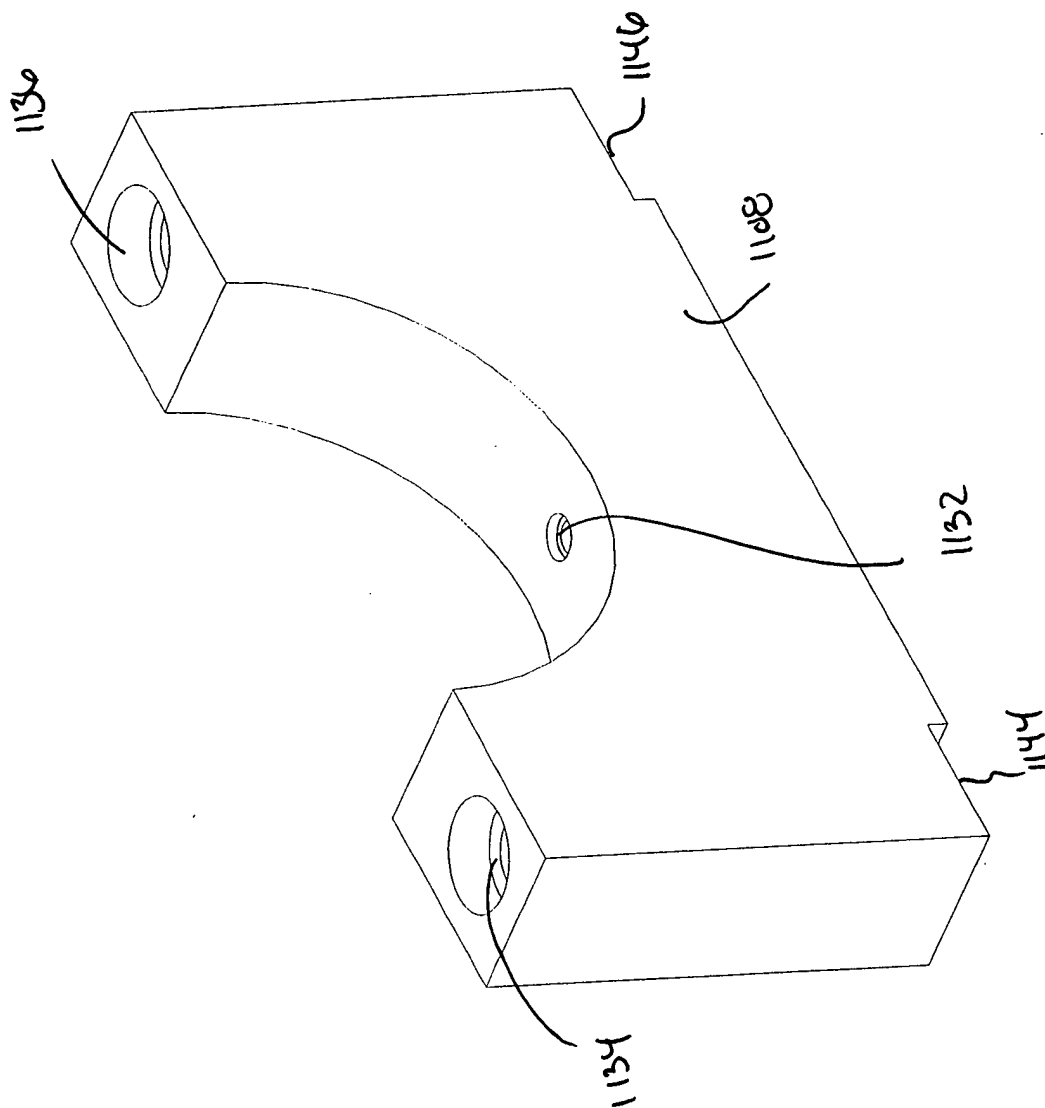


FIG. 155X



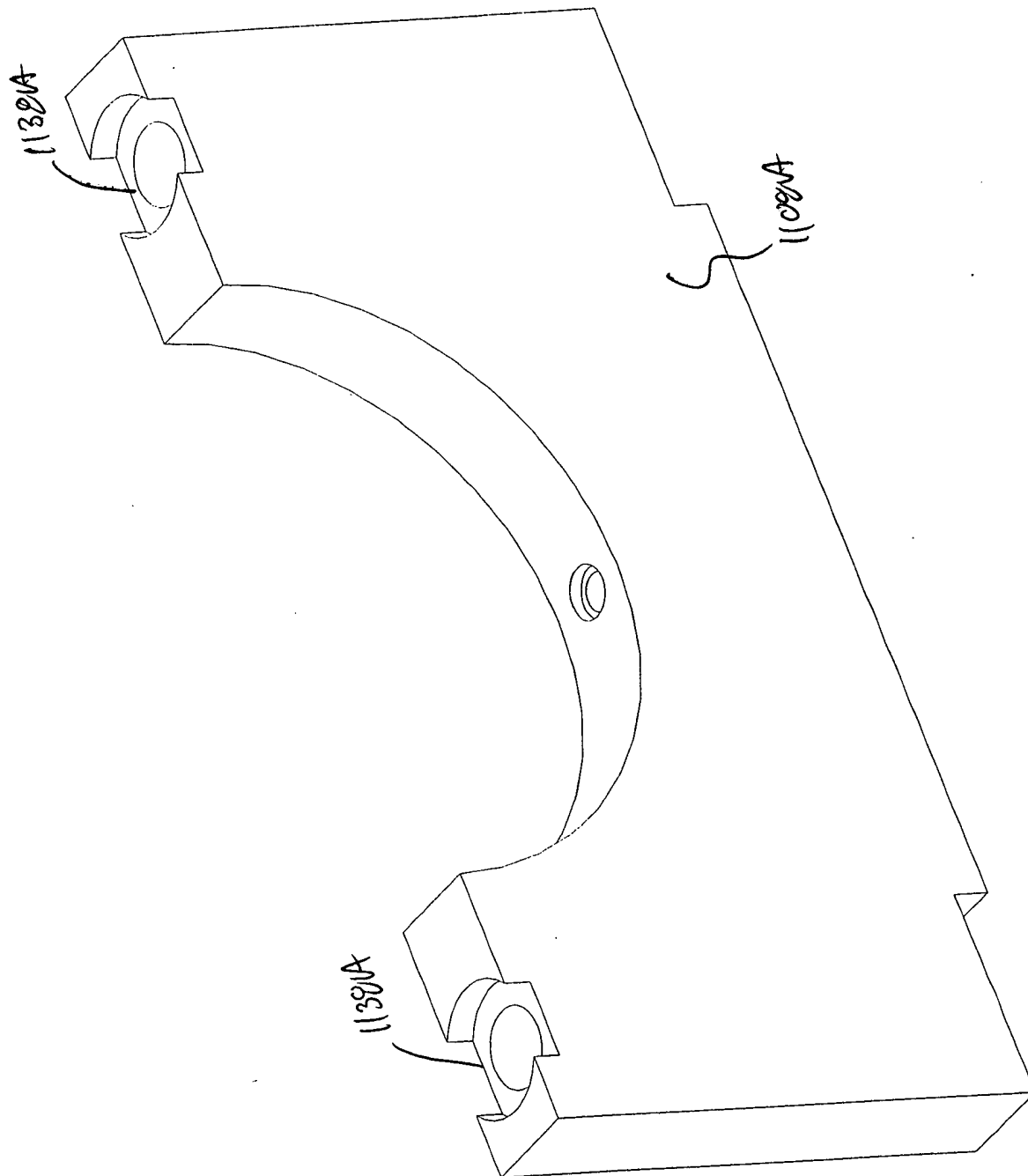
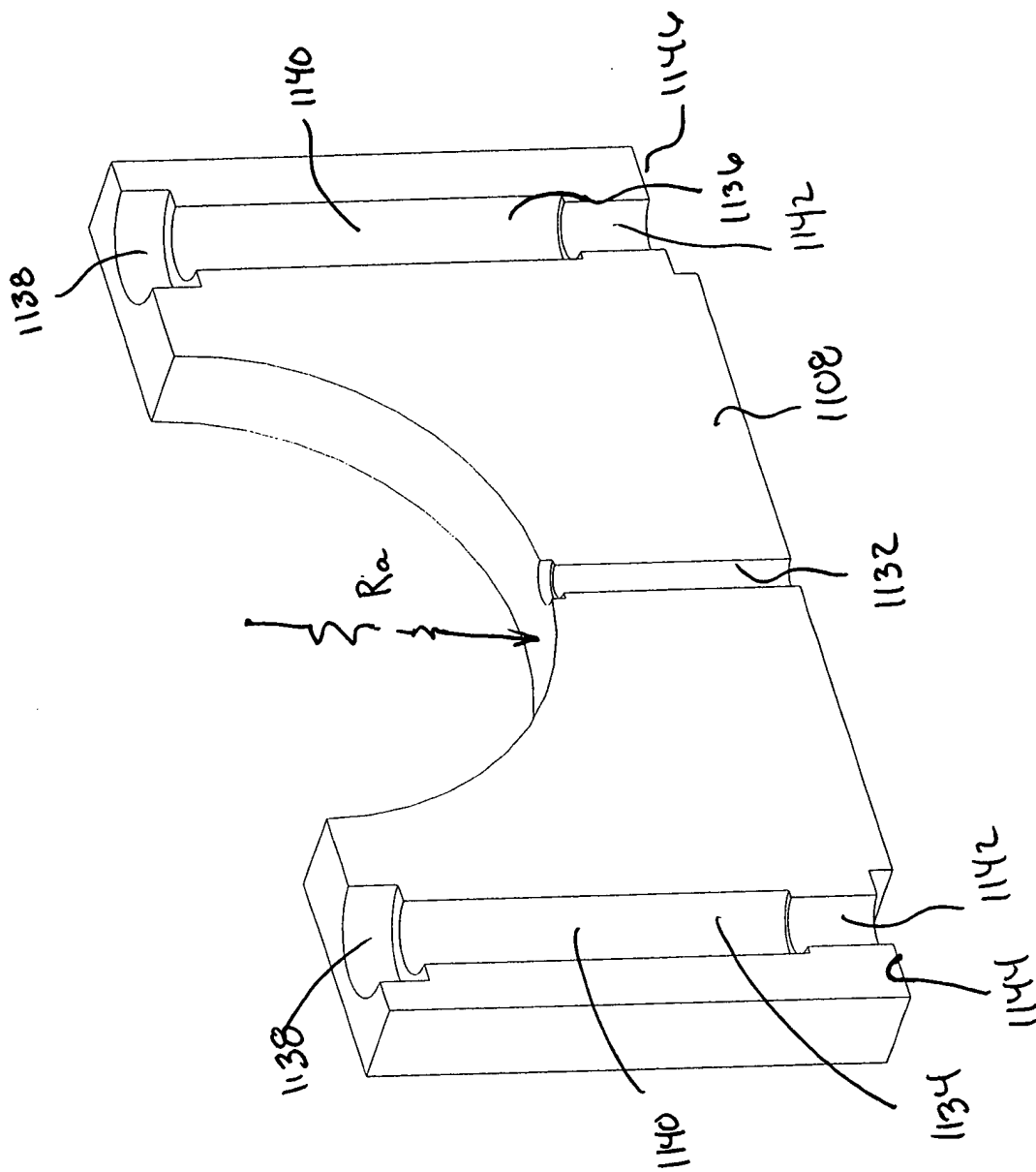
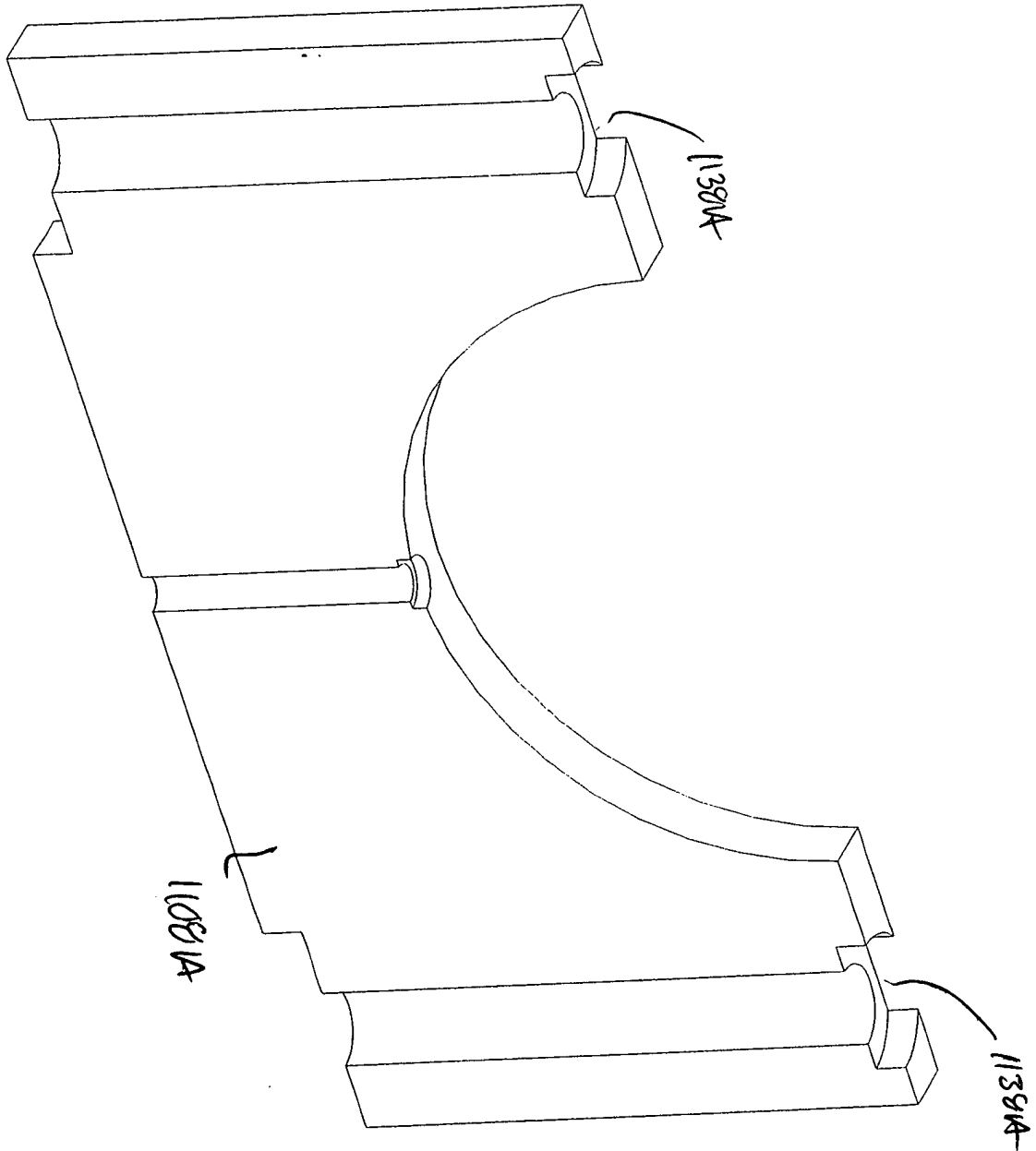
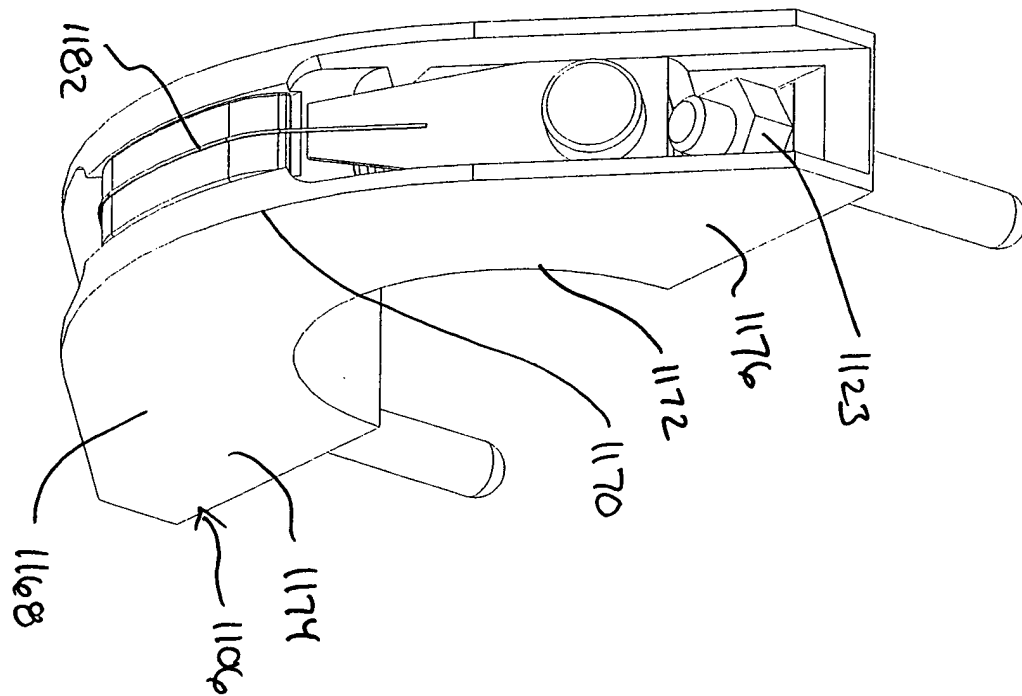


FIG. 155A

FIG. 15C-X







Inventor: George BERTRAM

Title: DISPENSING SYSTEM WITH IN LINE CHEMICAL PUMP SYSTEM

Attorney Docket No.: 034017R004

REPLACEMENT SHEET

FIG. 157A

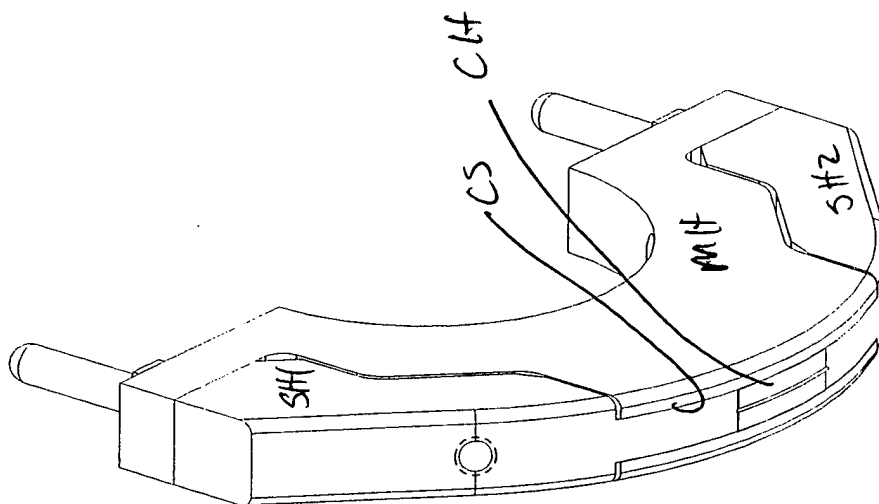
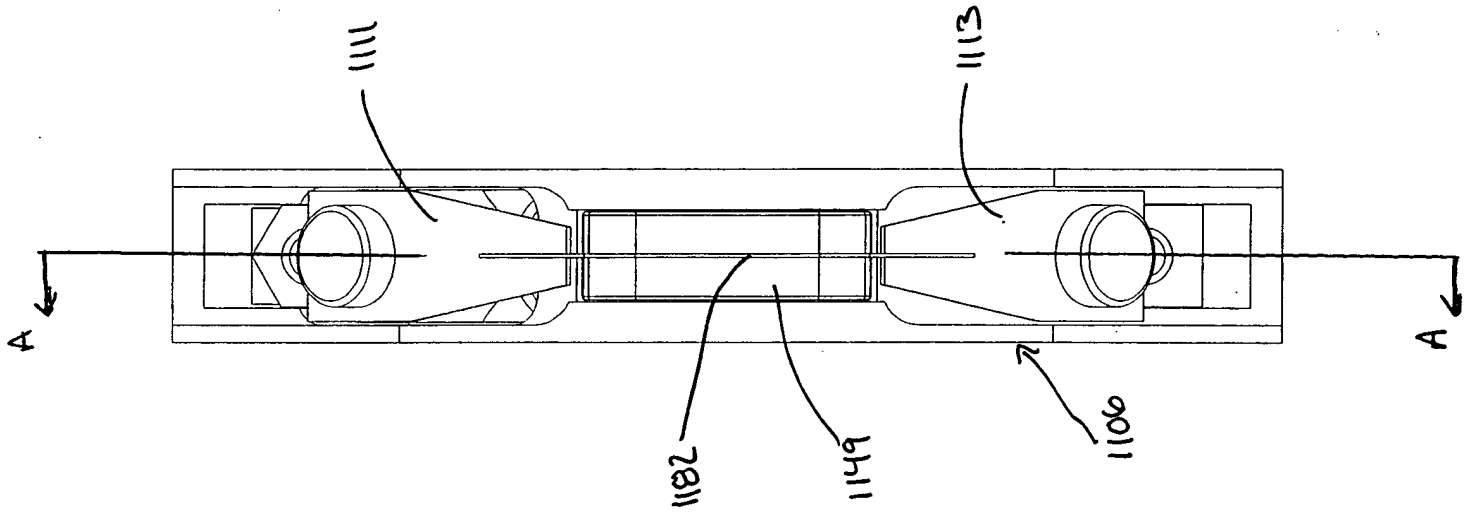


FIG. 158X

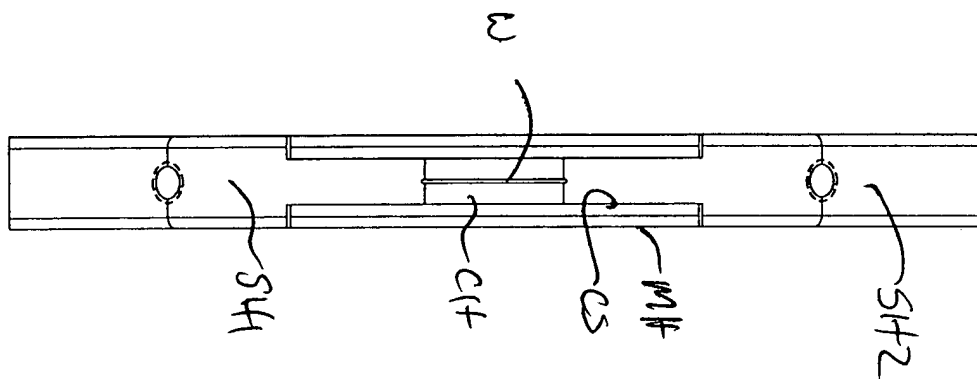


Inventor: George BERTRAM

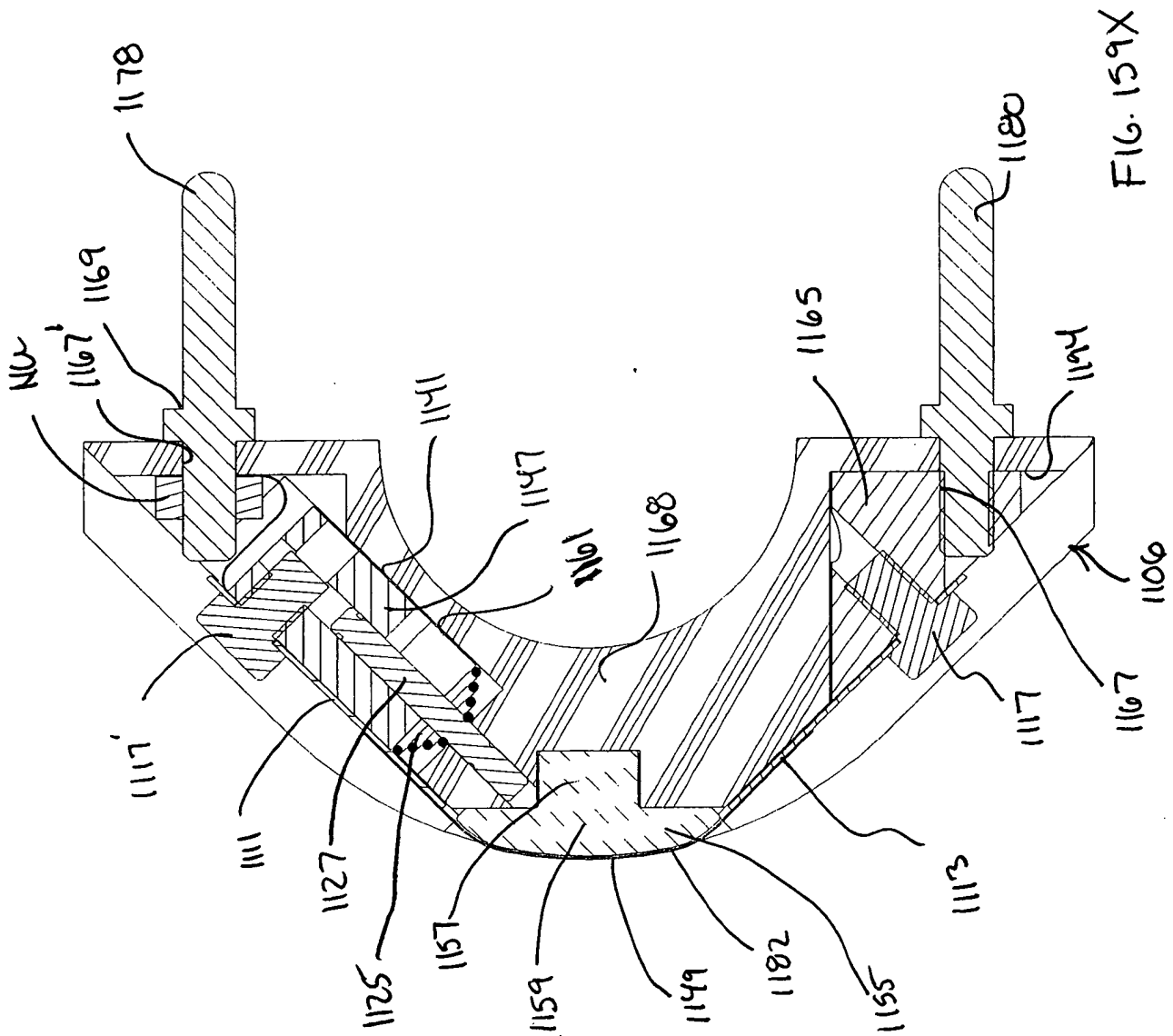
Title: DISPENSING SYSTEM WITH IN LINE CHEMICAL PUMP SYSTEM

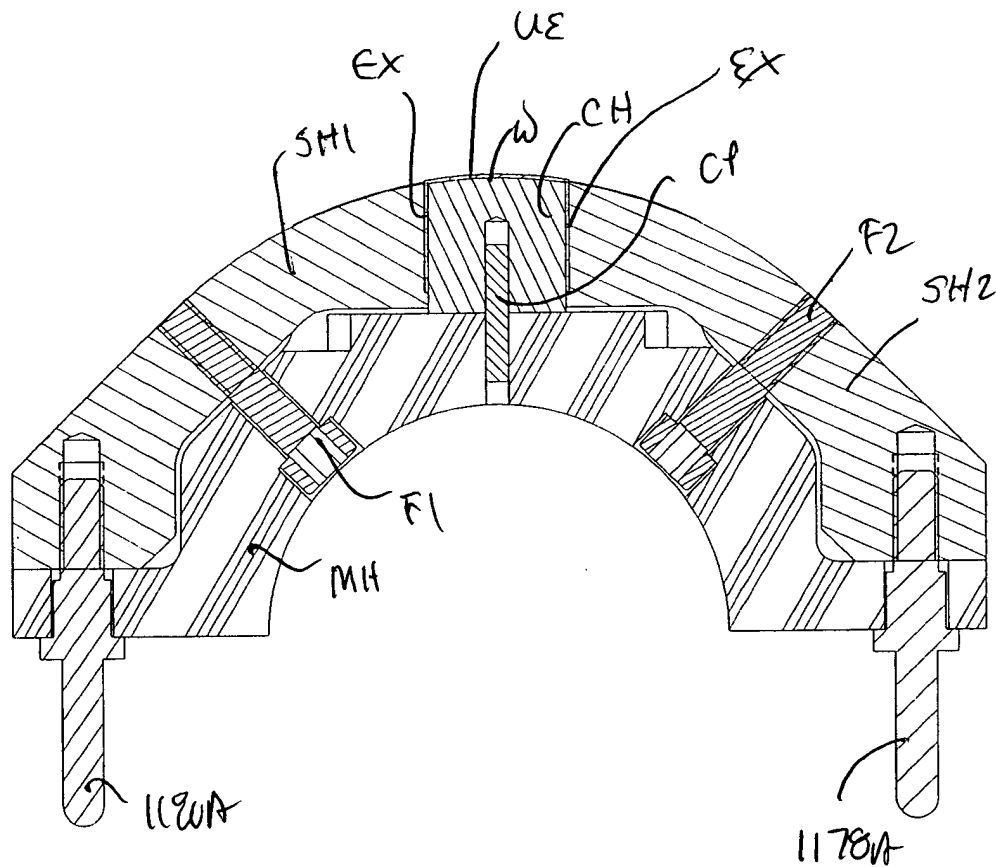
Attorney Docket No.: 034017R004

REPLACEMENT SHEET



F16.1584





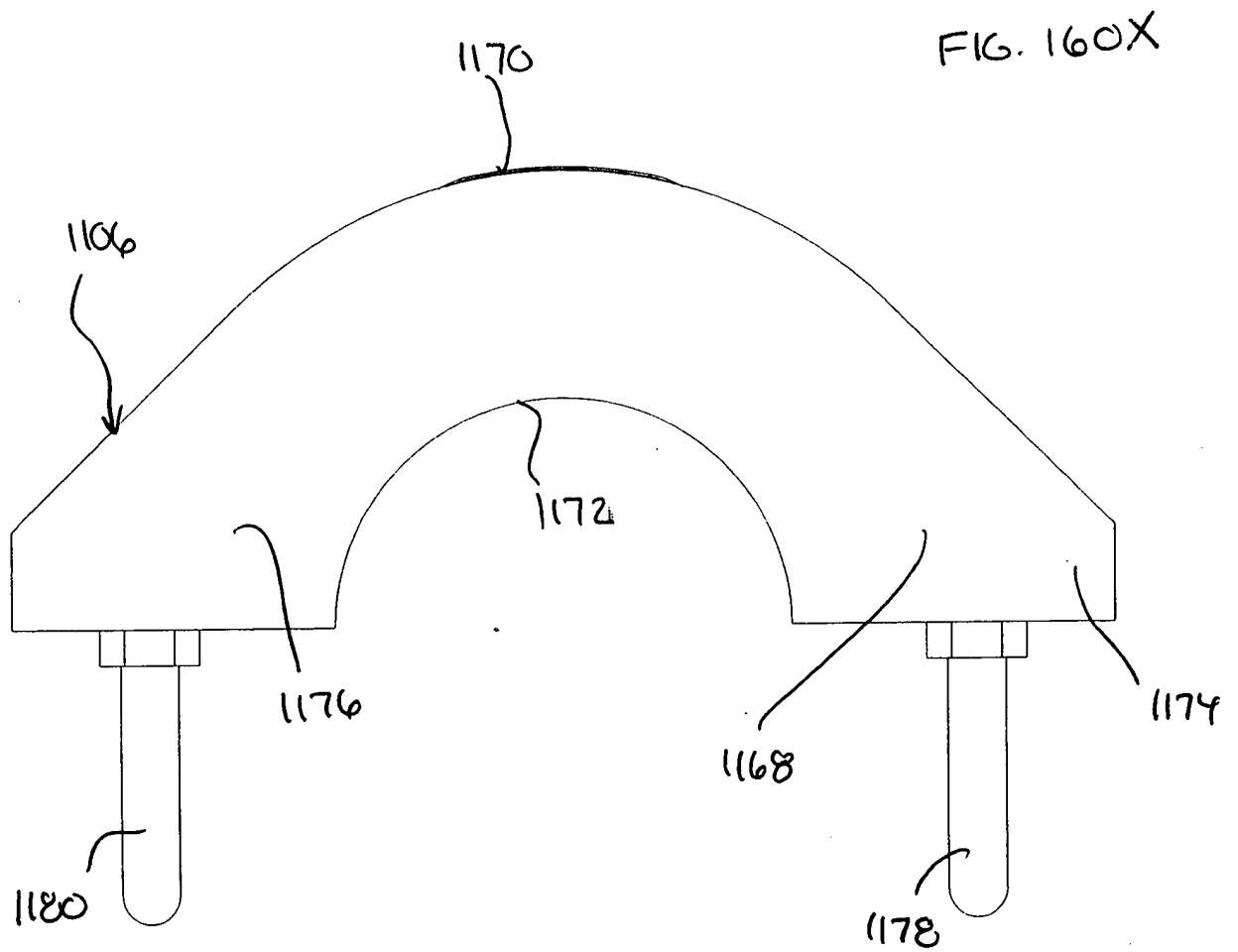


FIG. 160A

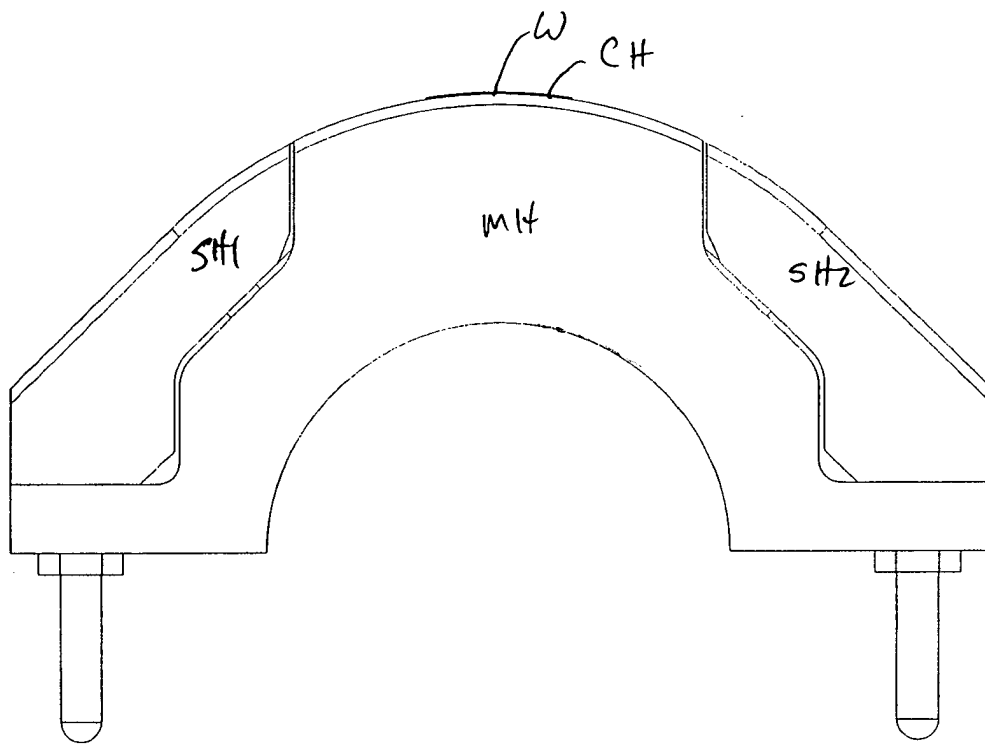
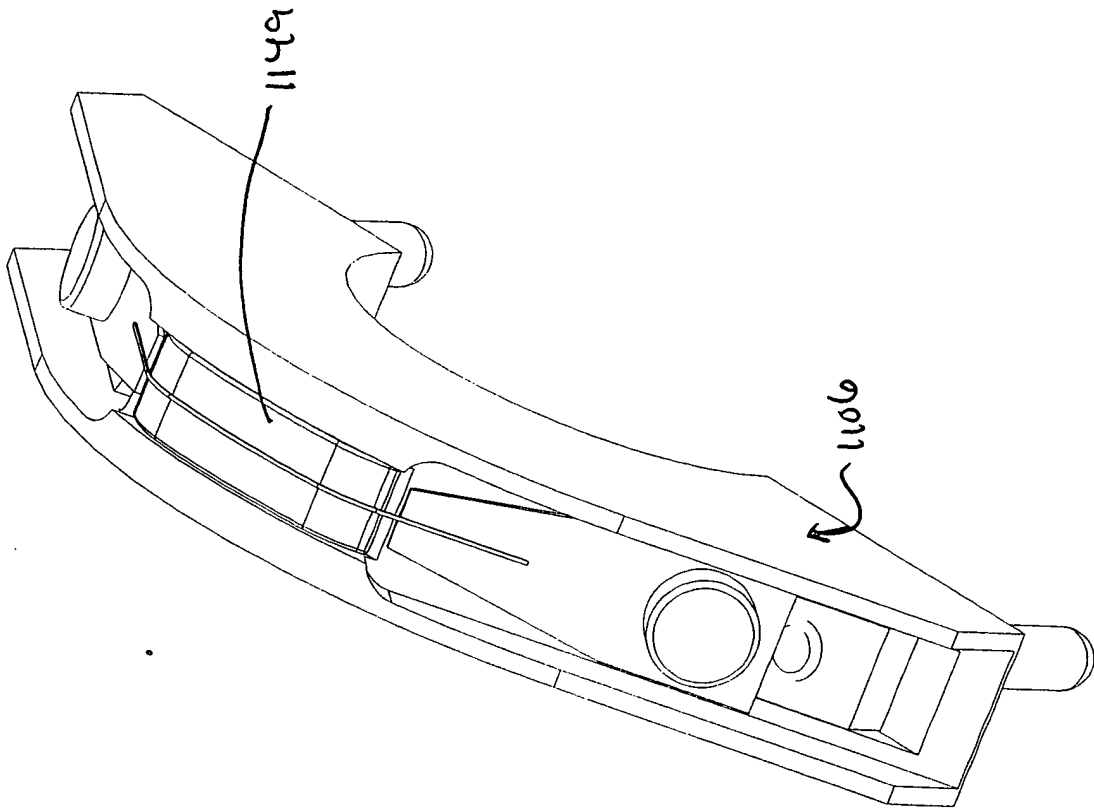


FIG. 16IX



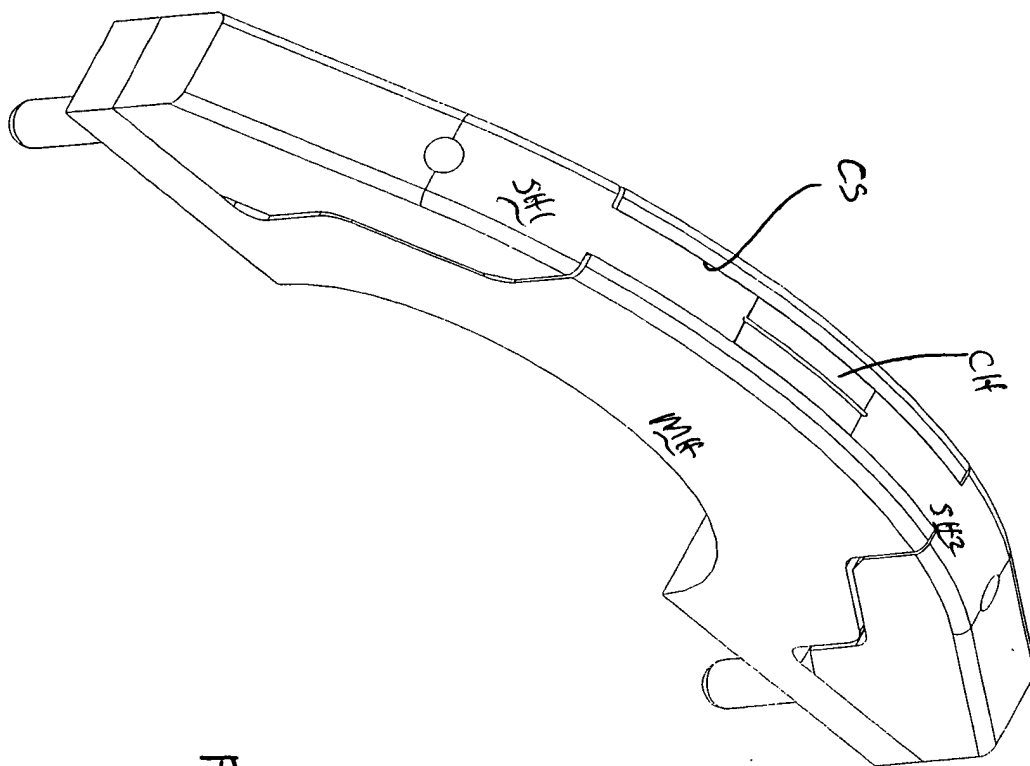
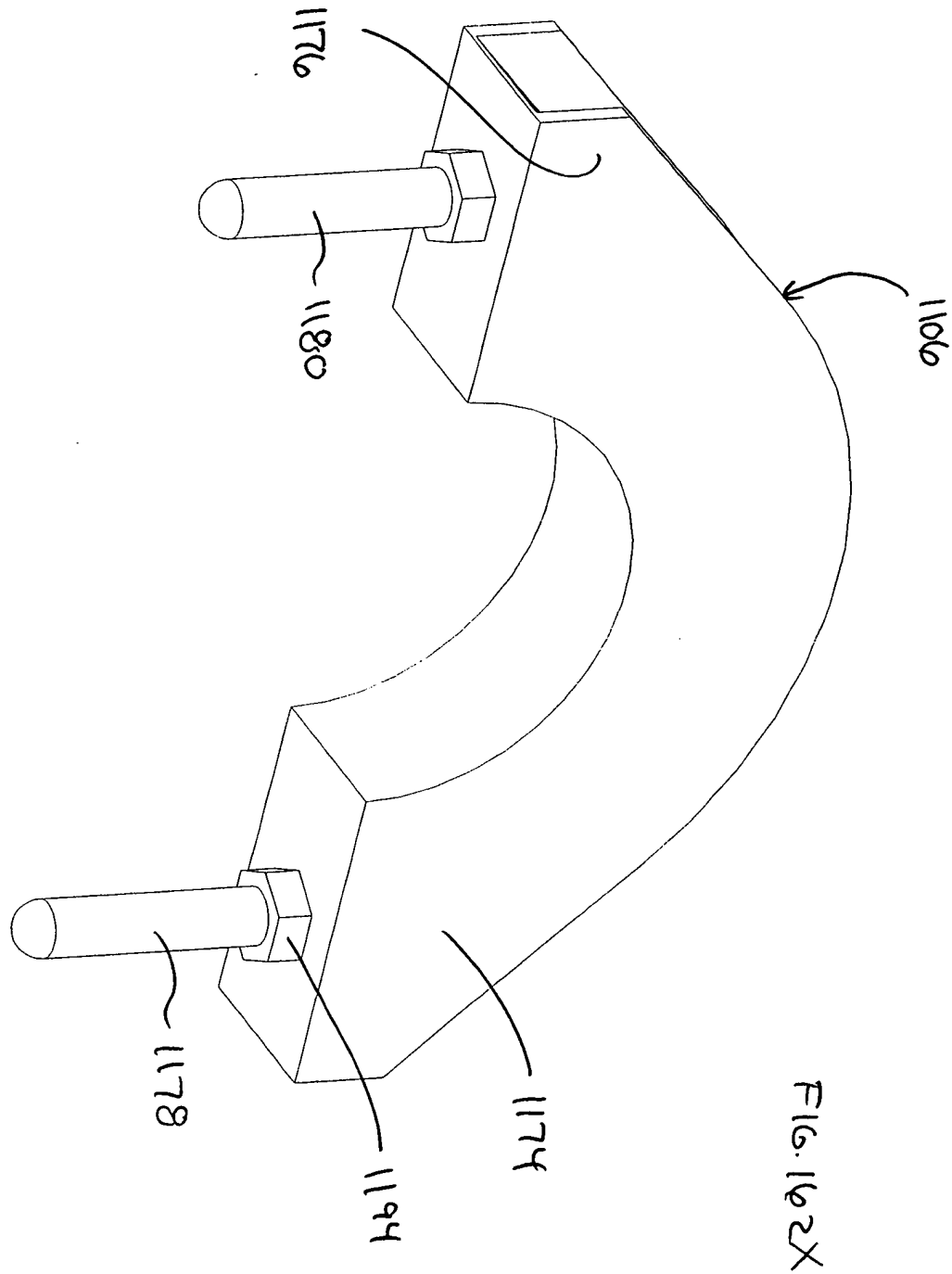


FIG. 161A



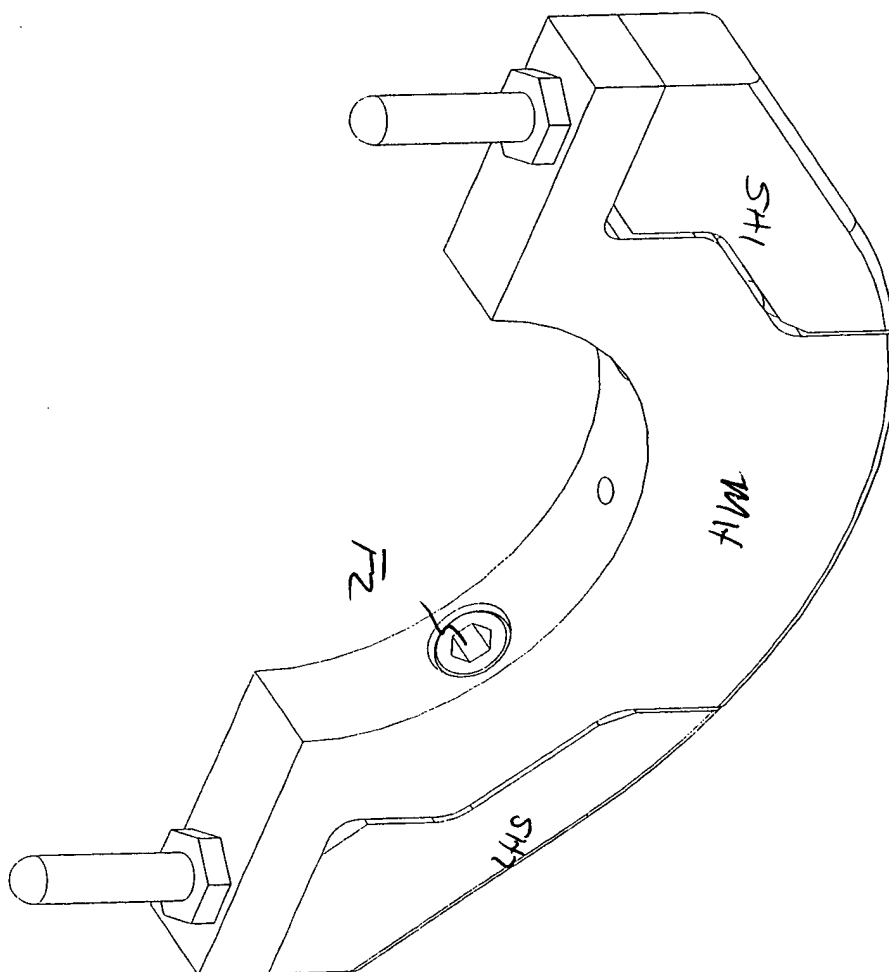
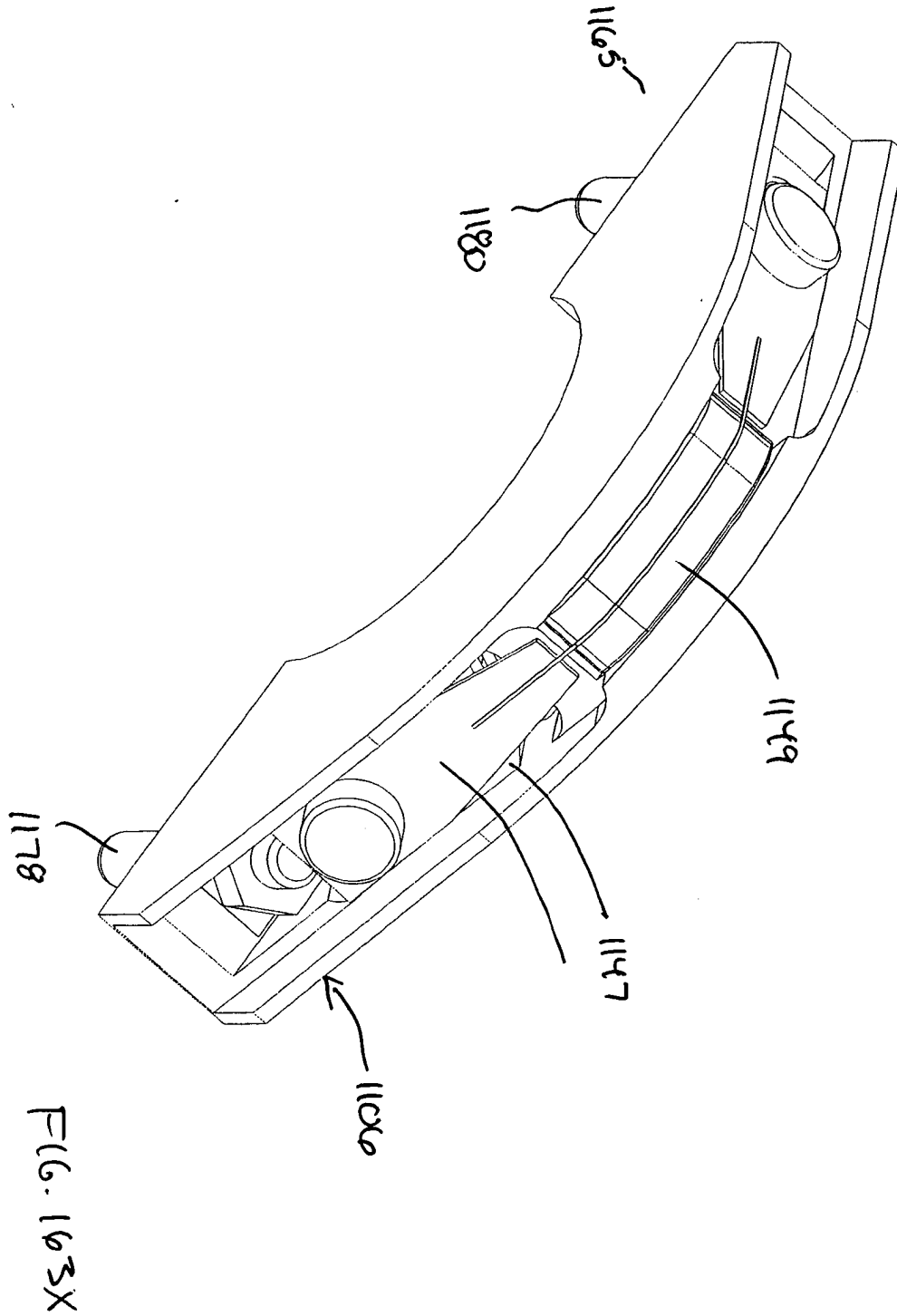


FIG. 162A



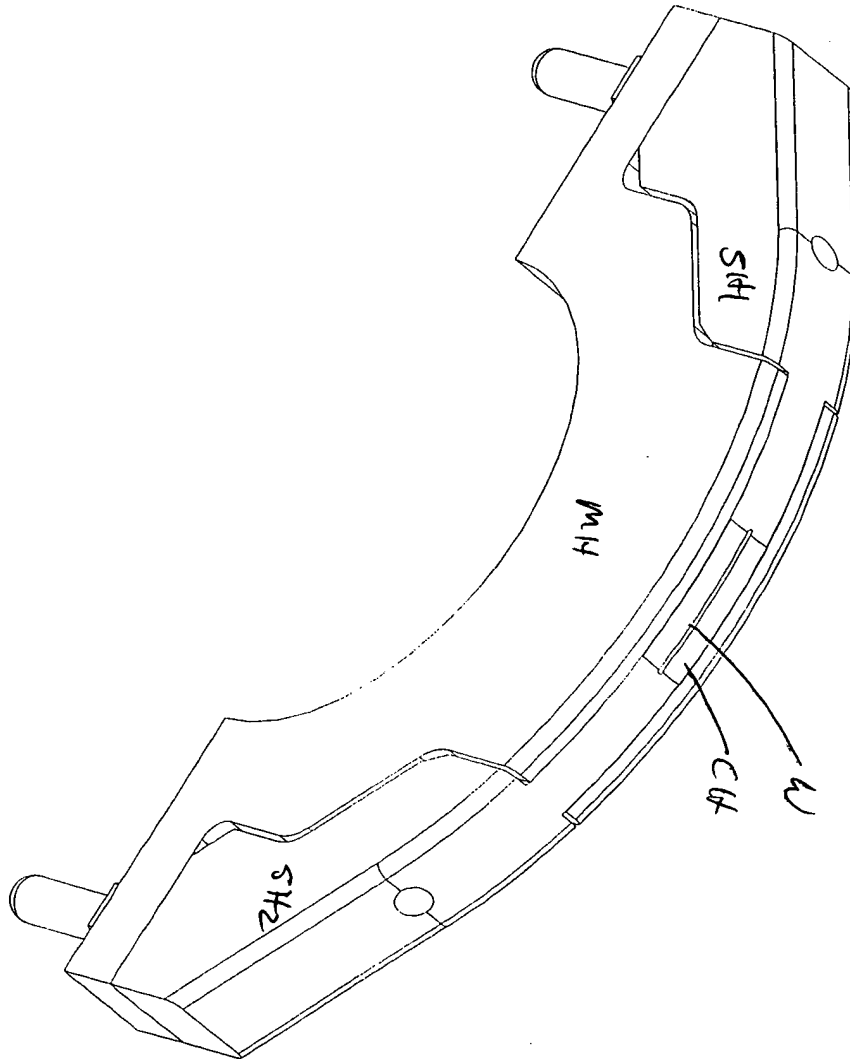
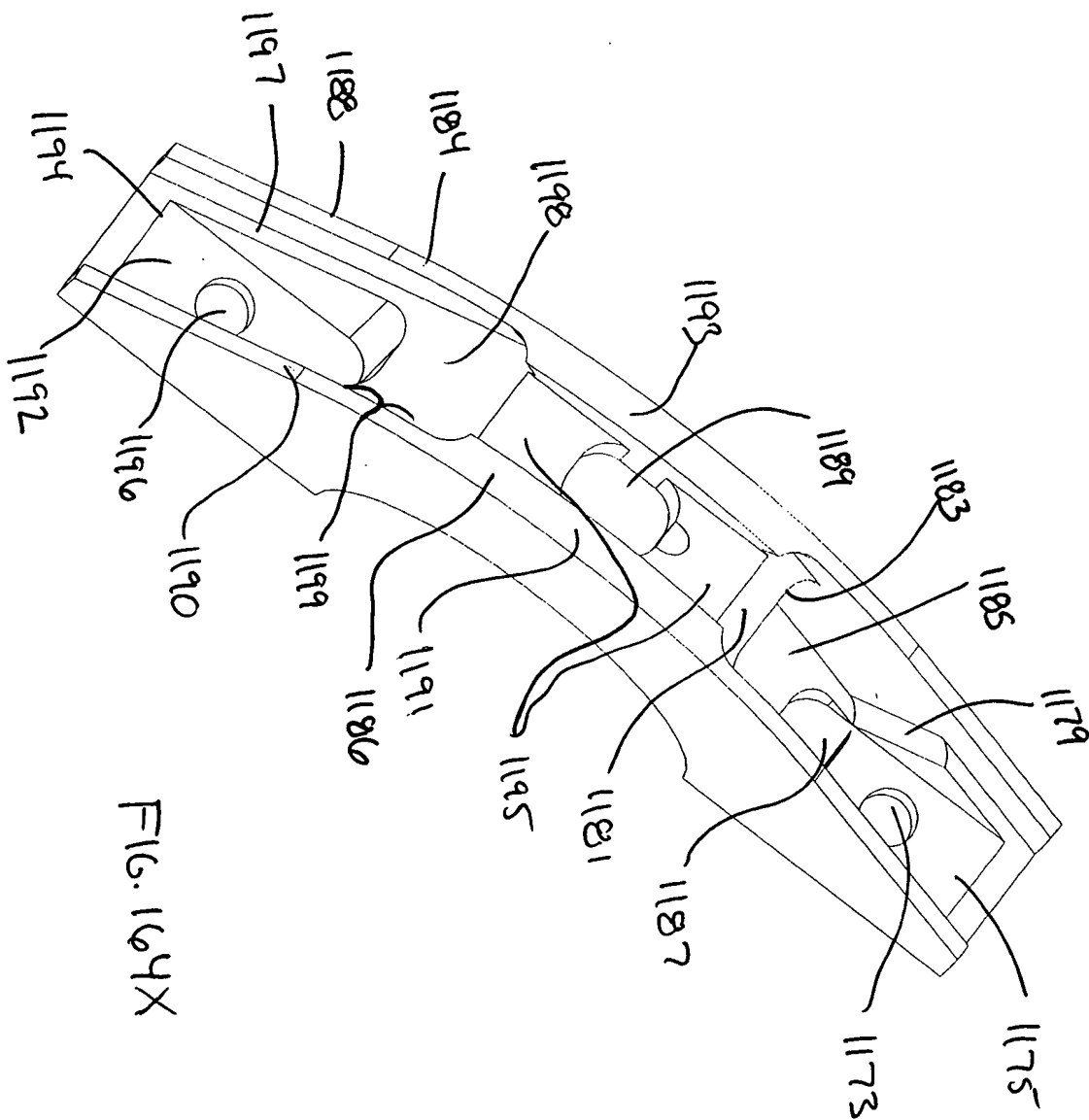


FIG. 163A



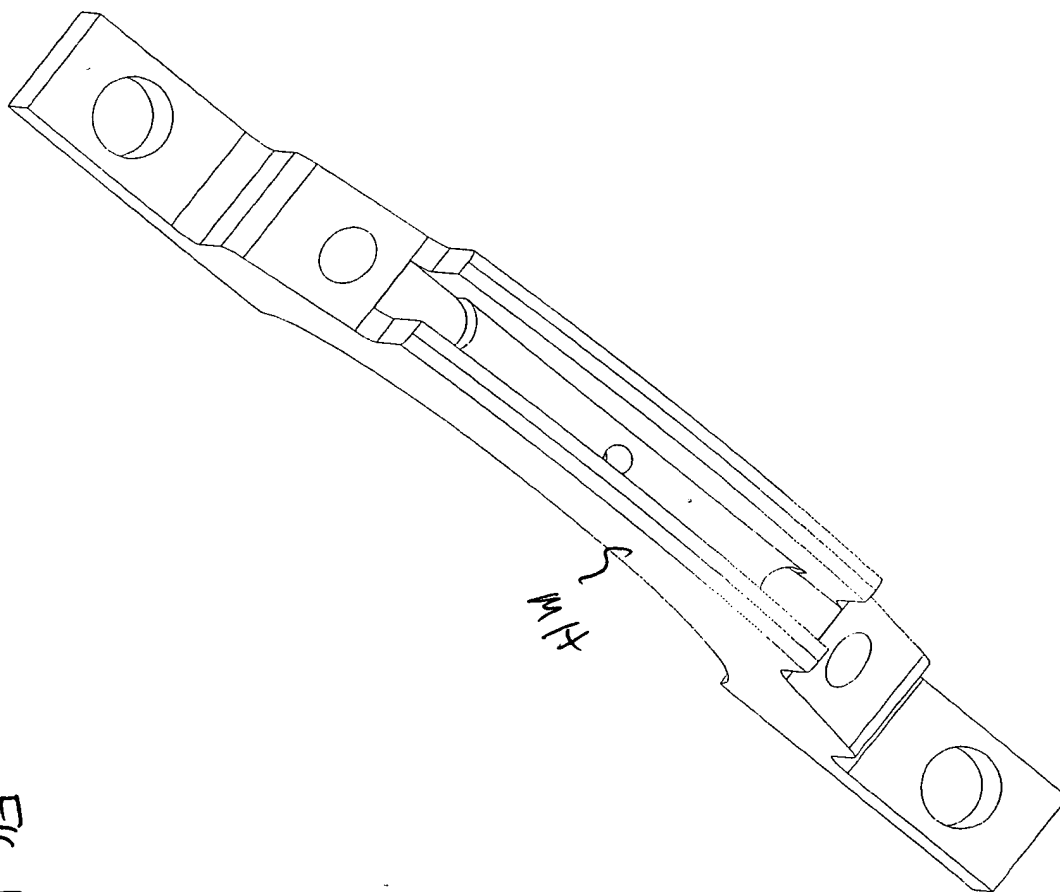
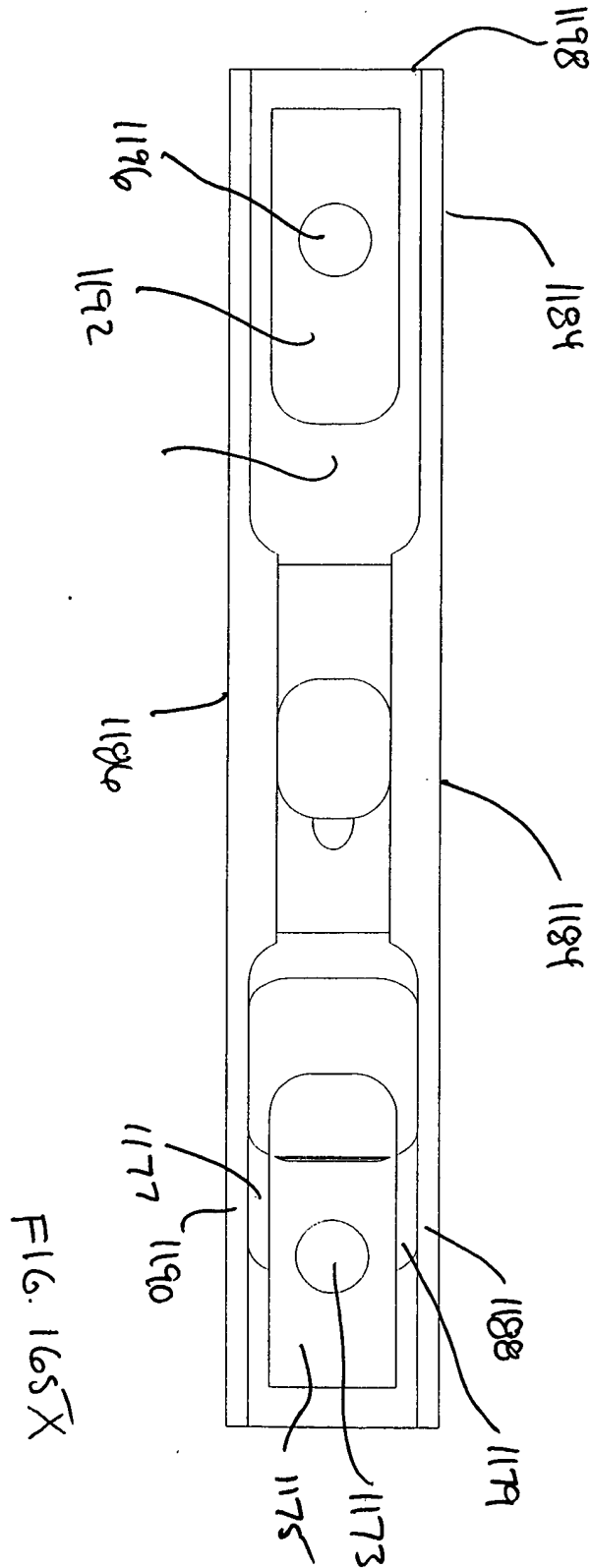


FIG. 164A



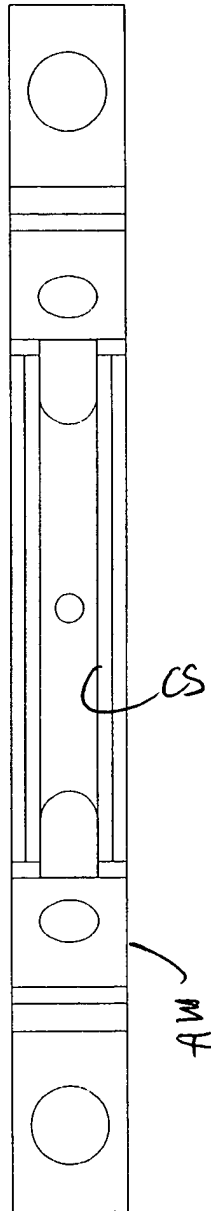


FIG. 165A

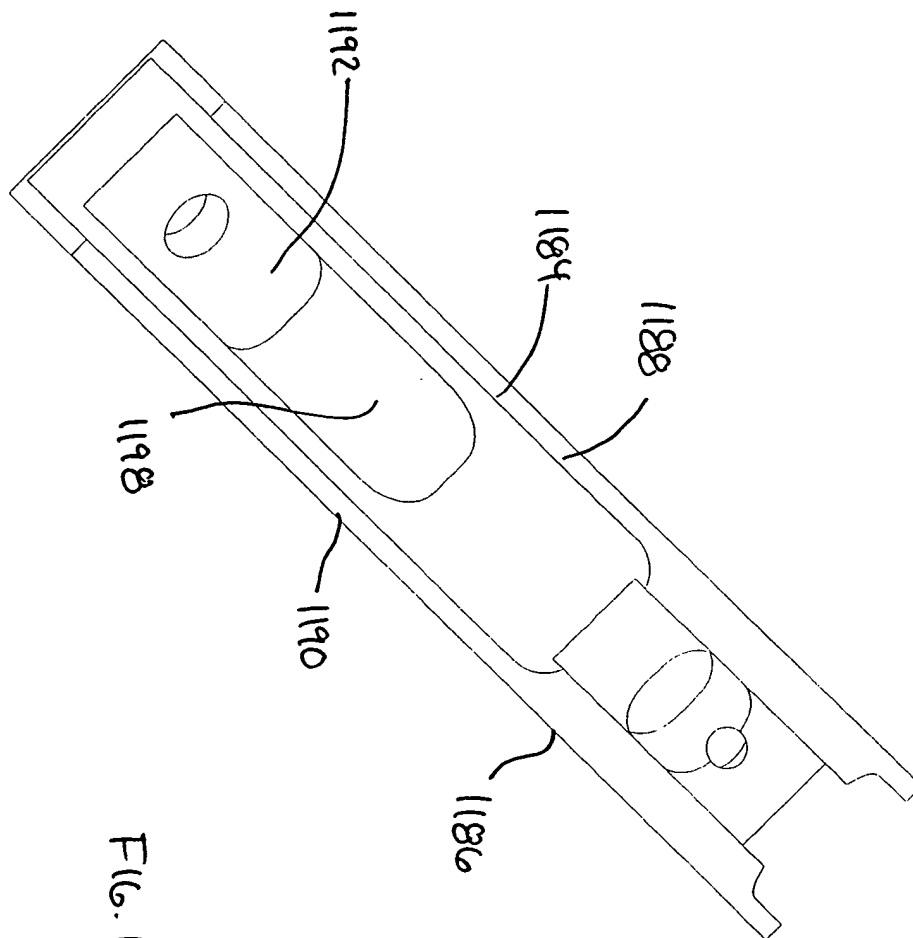


FIG. 166X

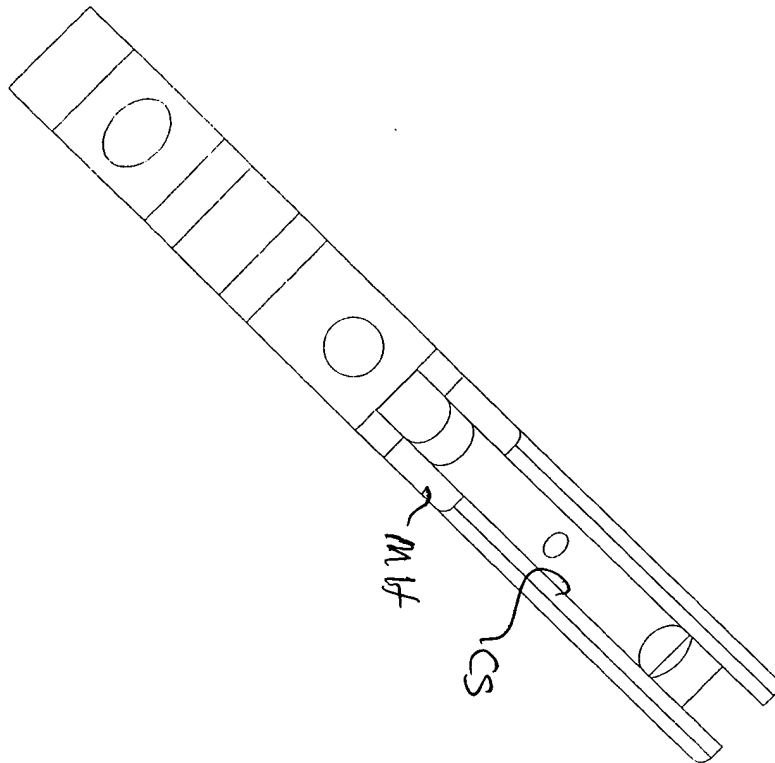


FIG. 166A

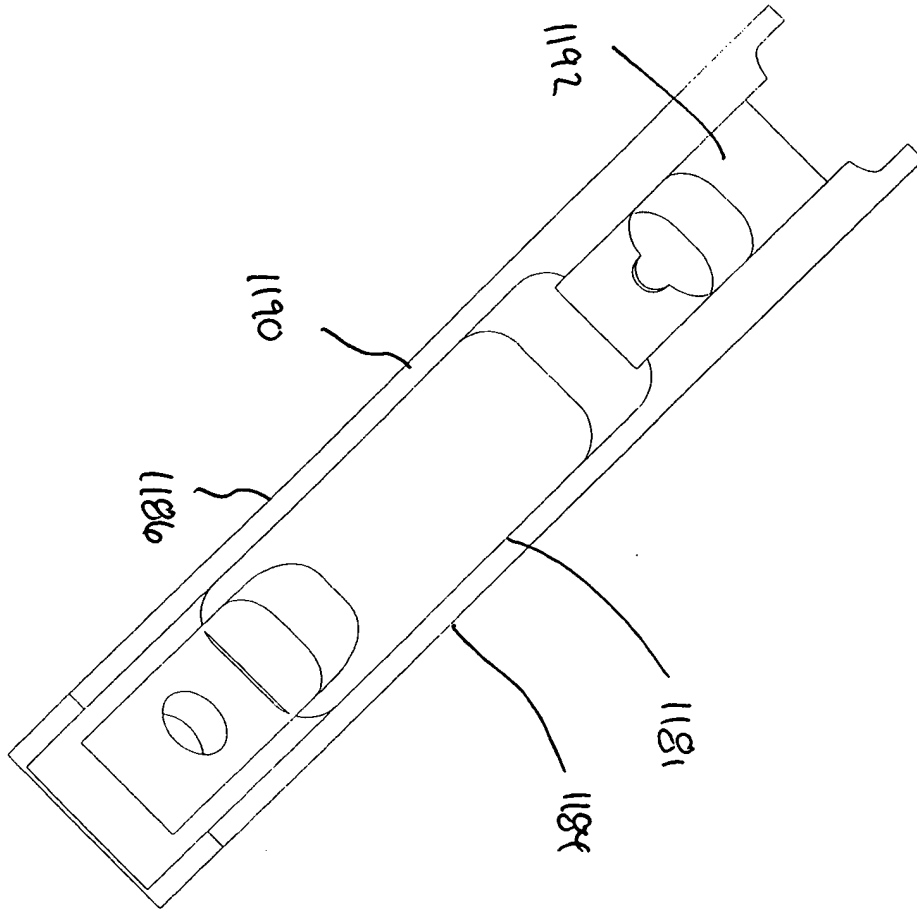


FIG. 167X

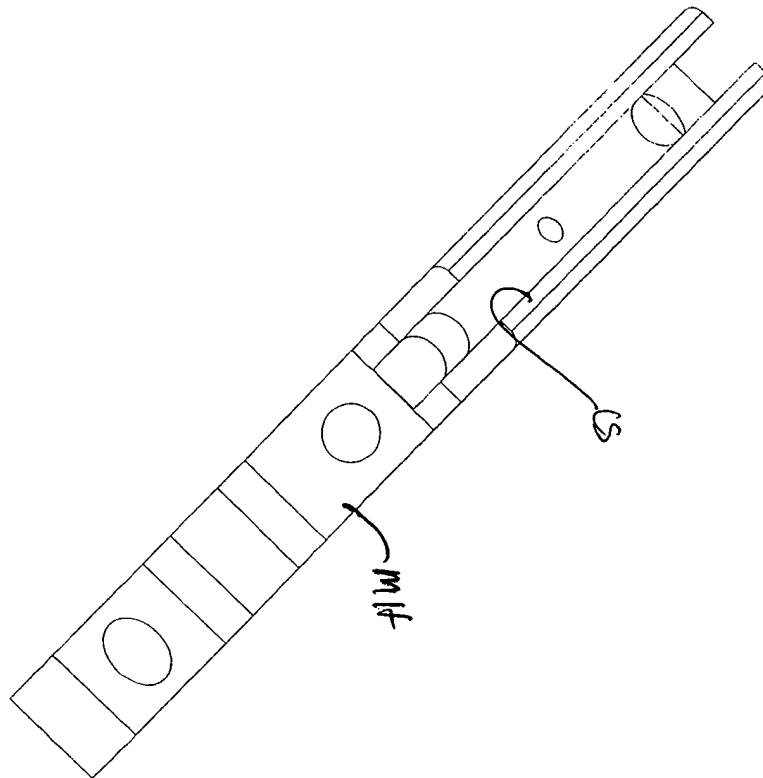
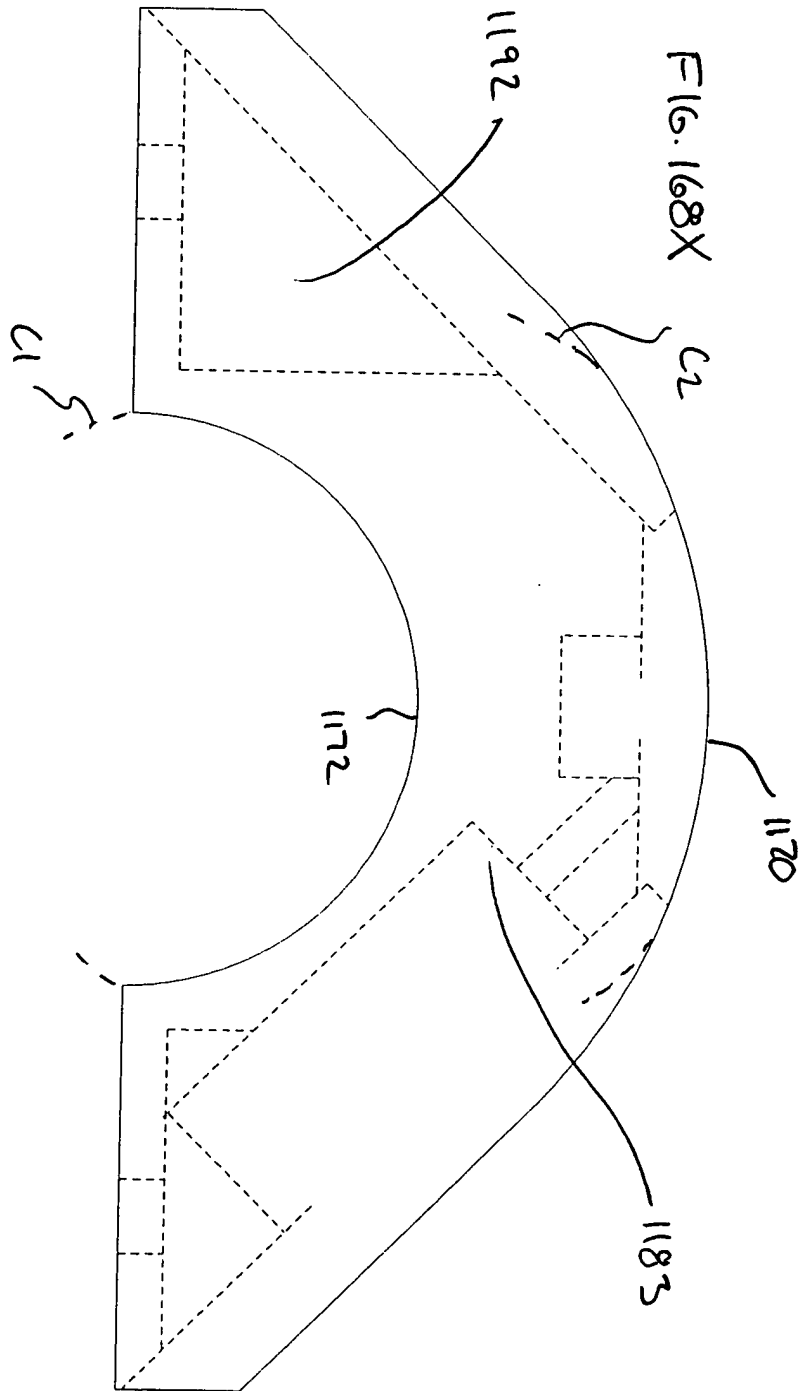


FIG. 16Z4



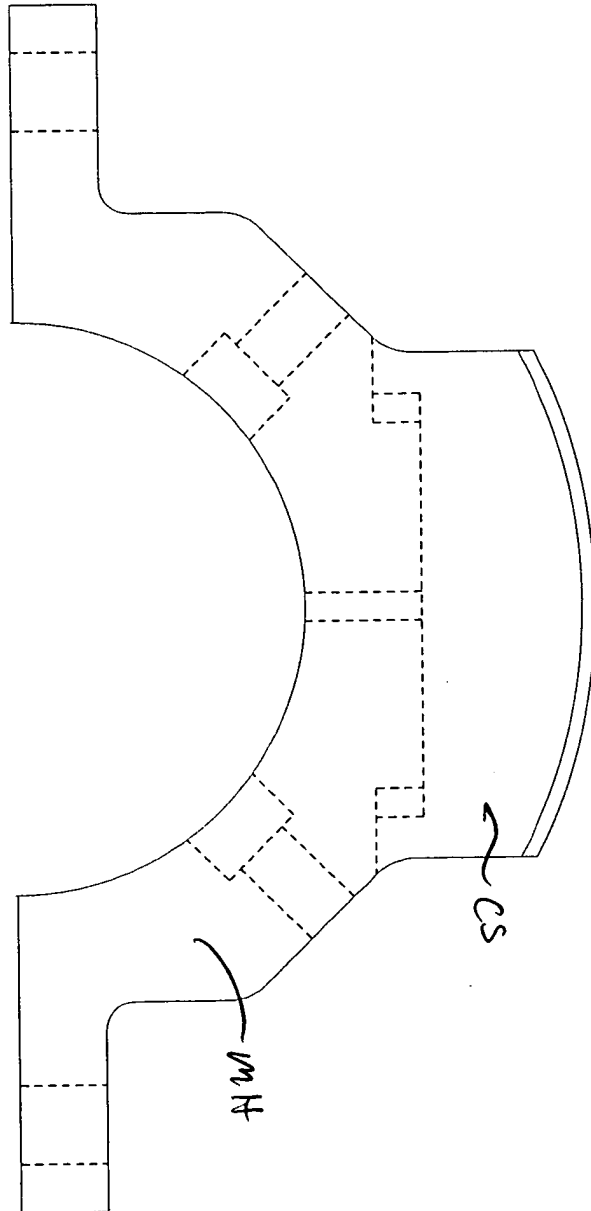


FIG. 16B

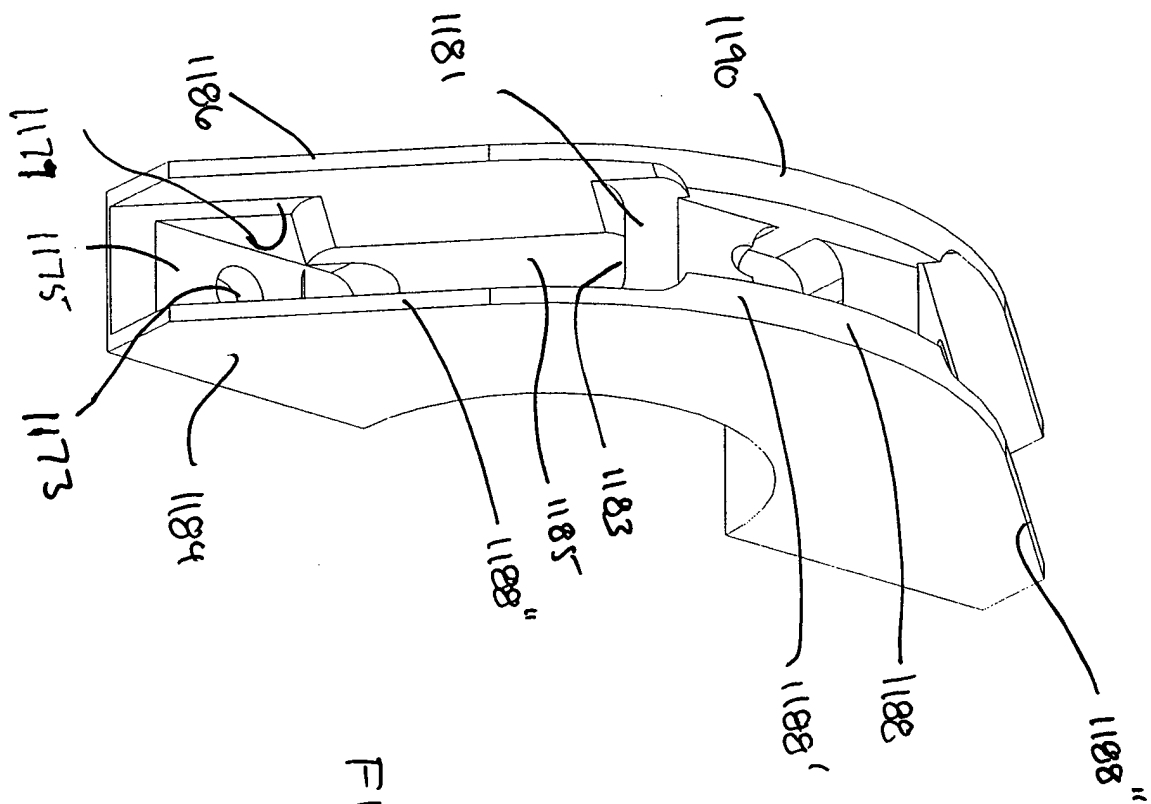


FIG. 169X

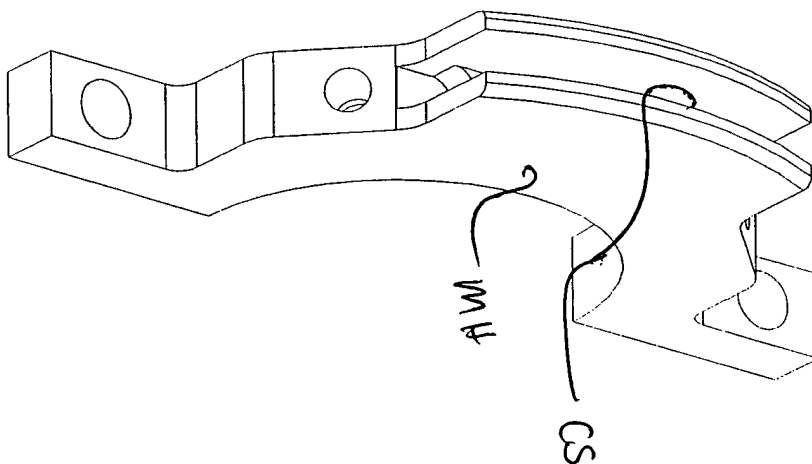


FIG. 169A

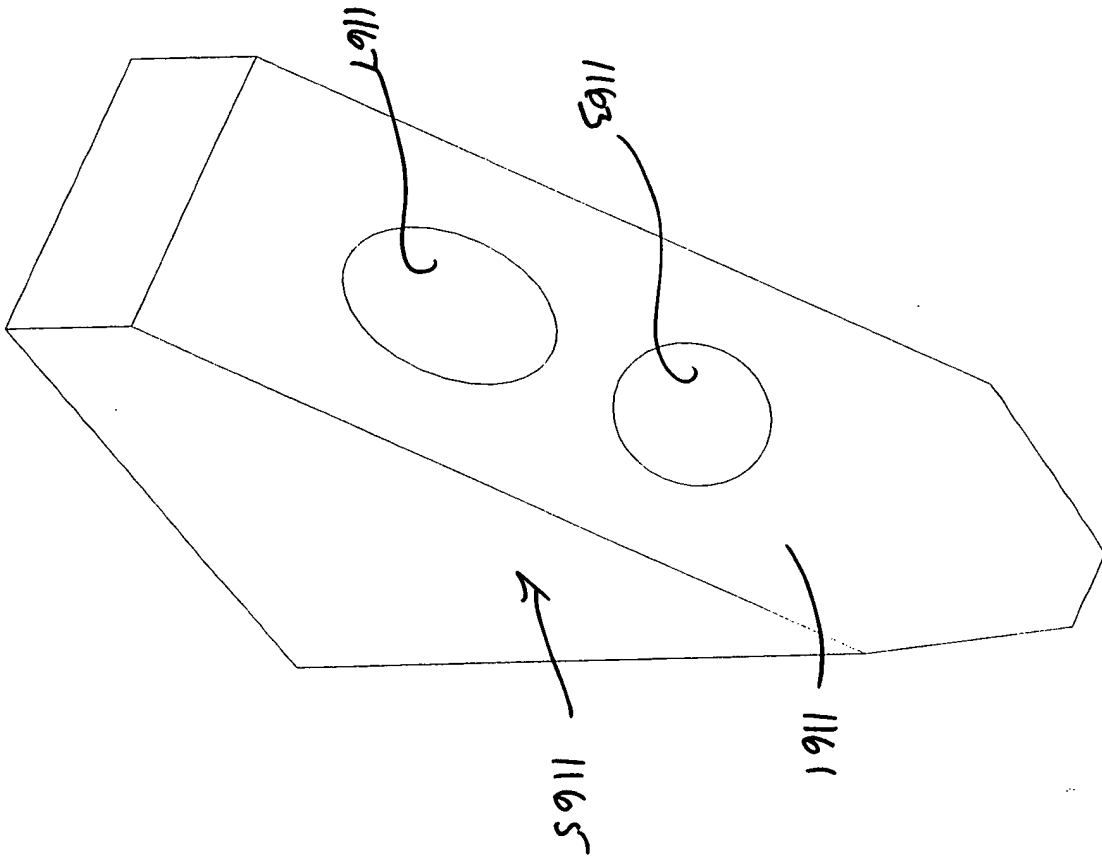


FIG. 170X

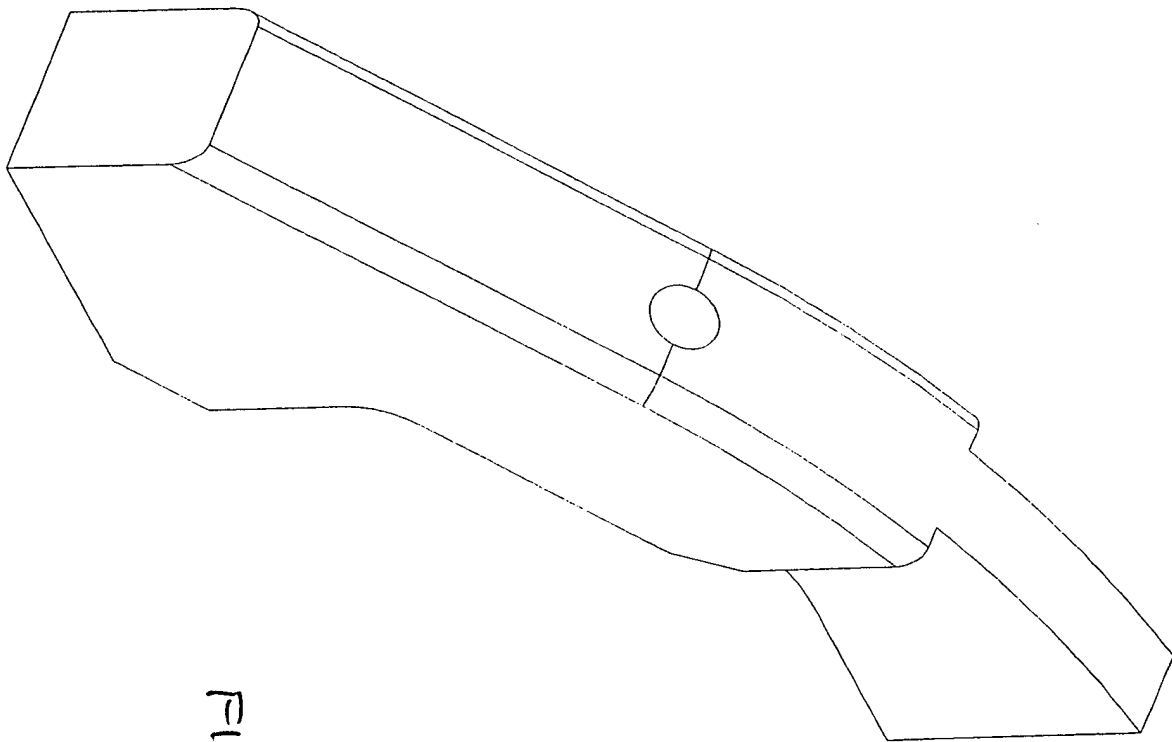
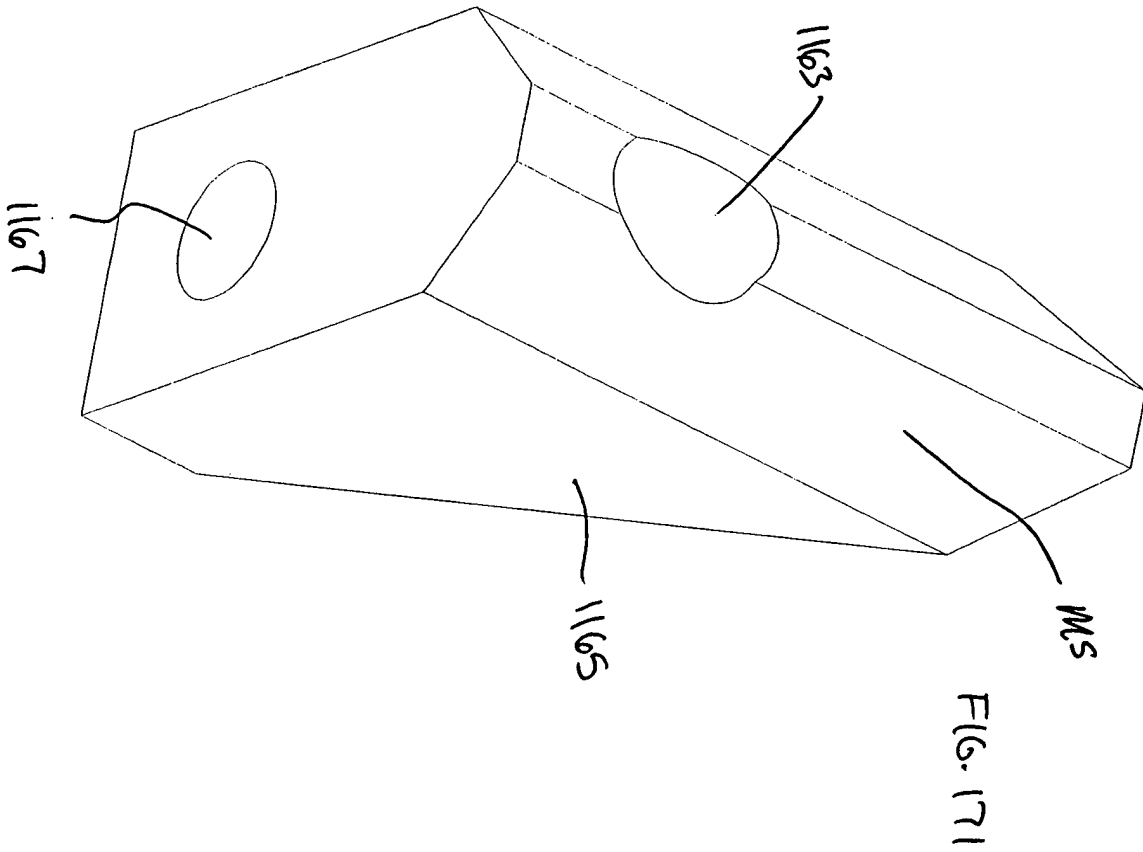


FIG. 1704



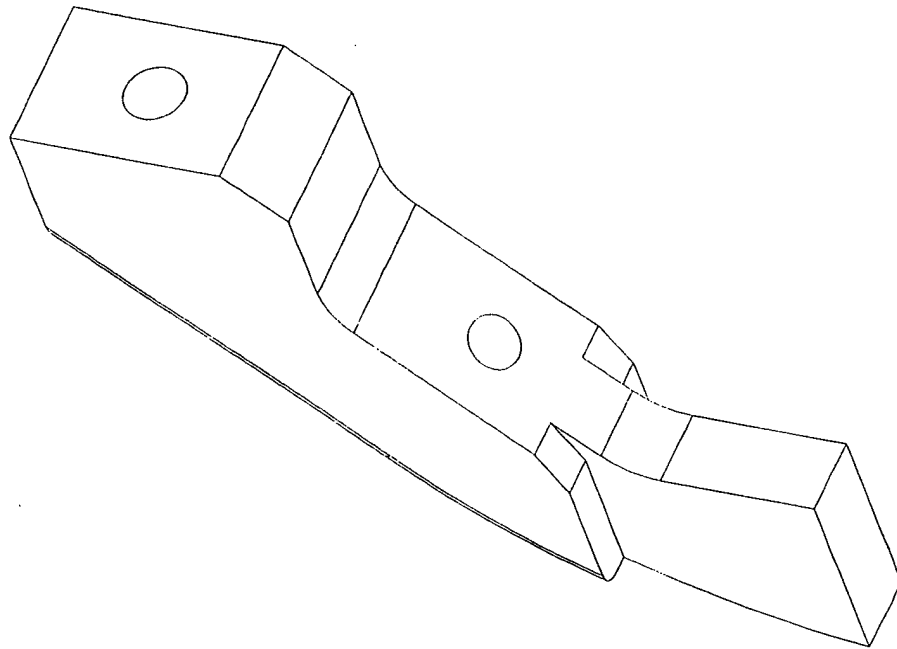


FIG. 121A

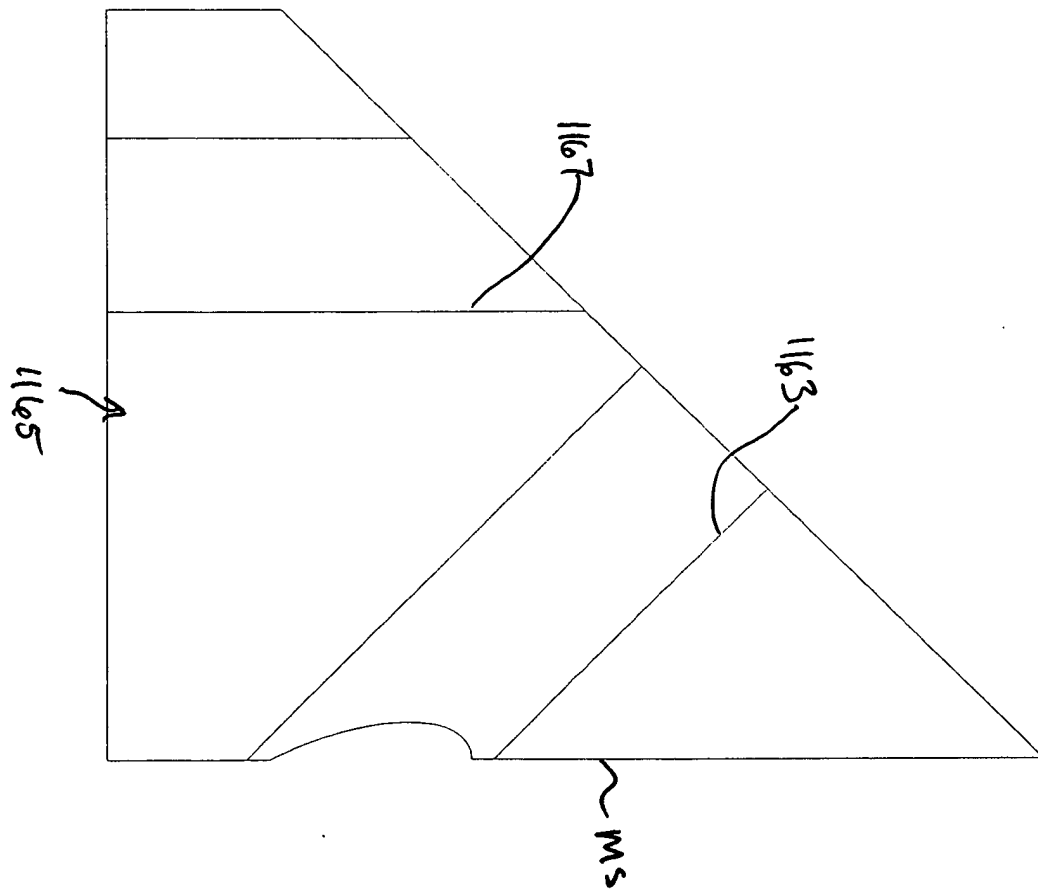


FIG. 172X

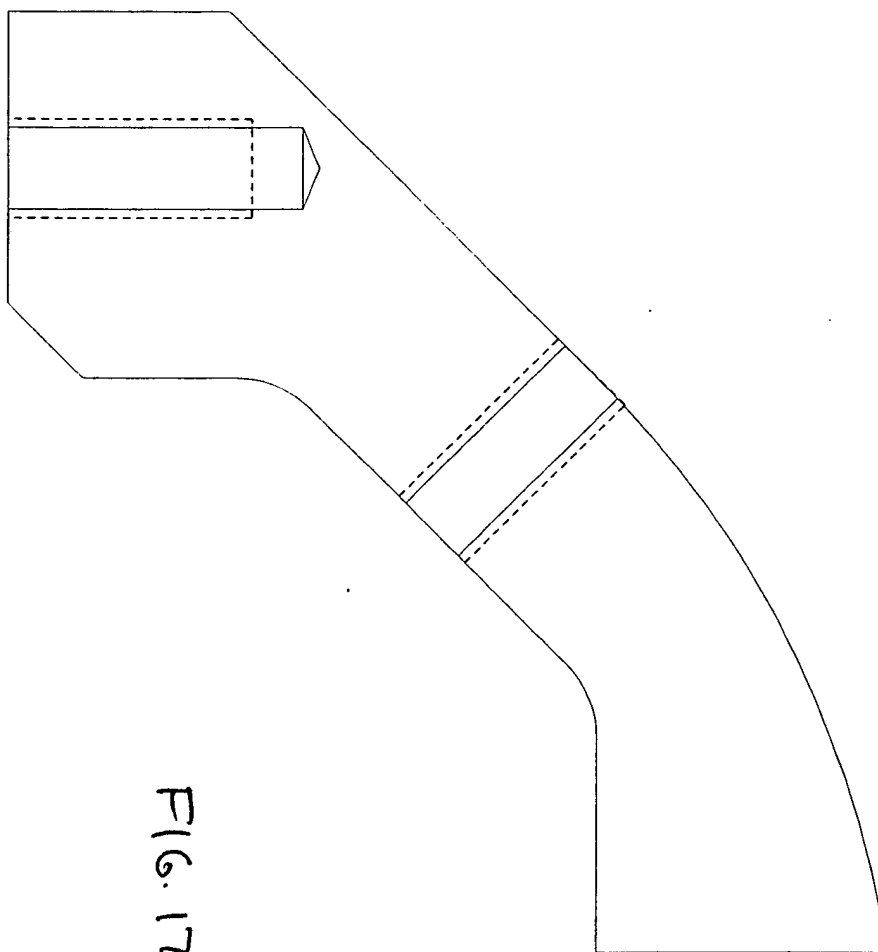
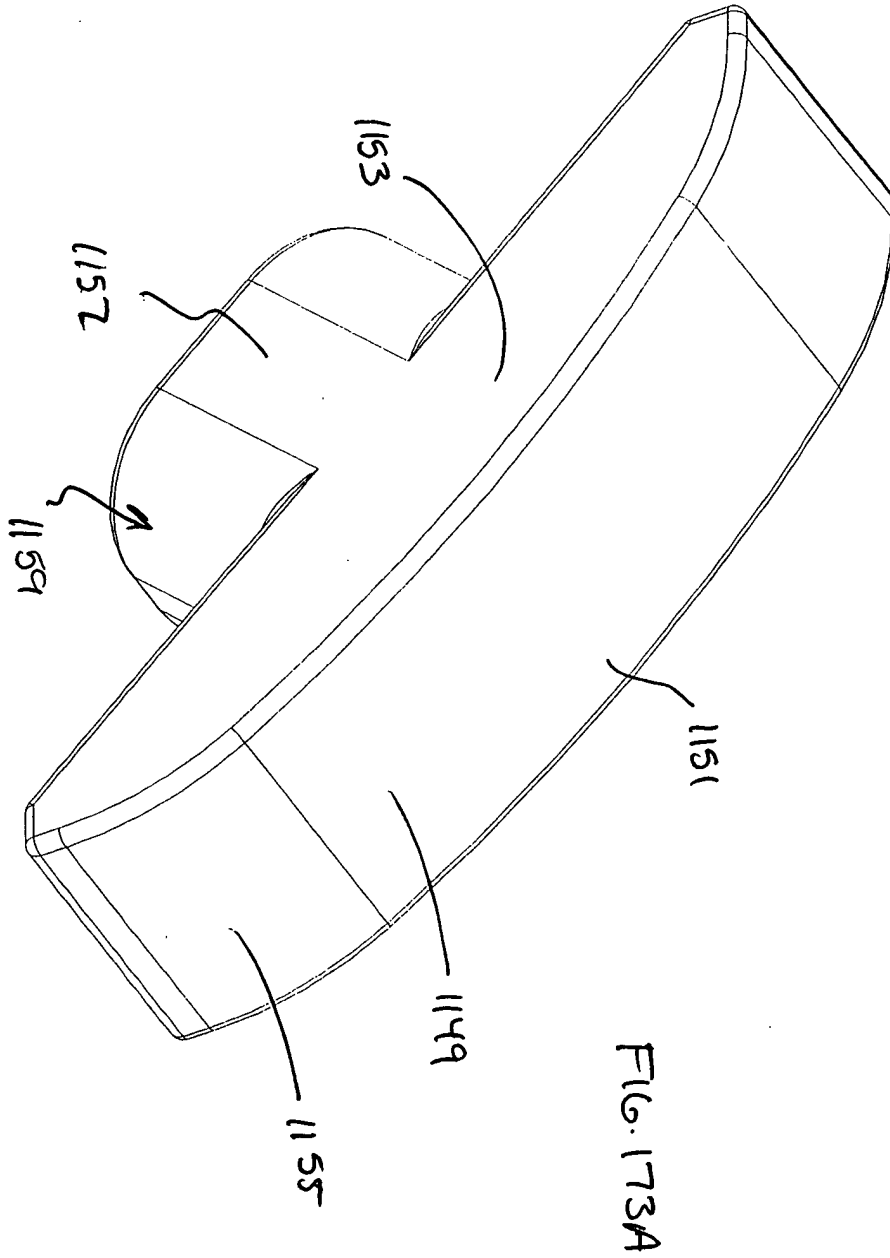
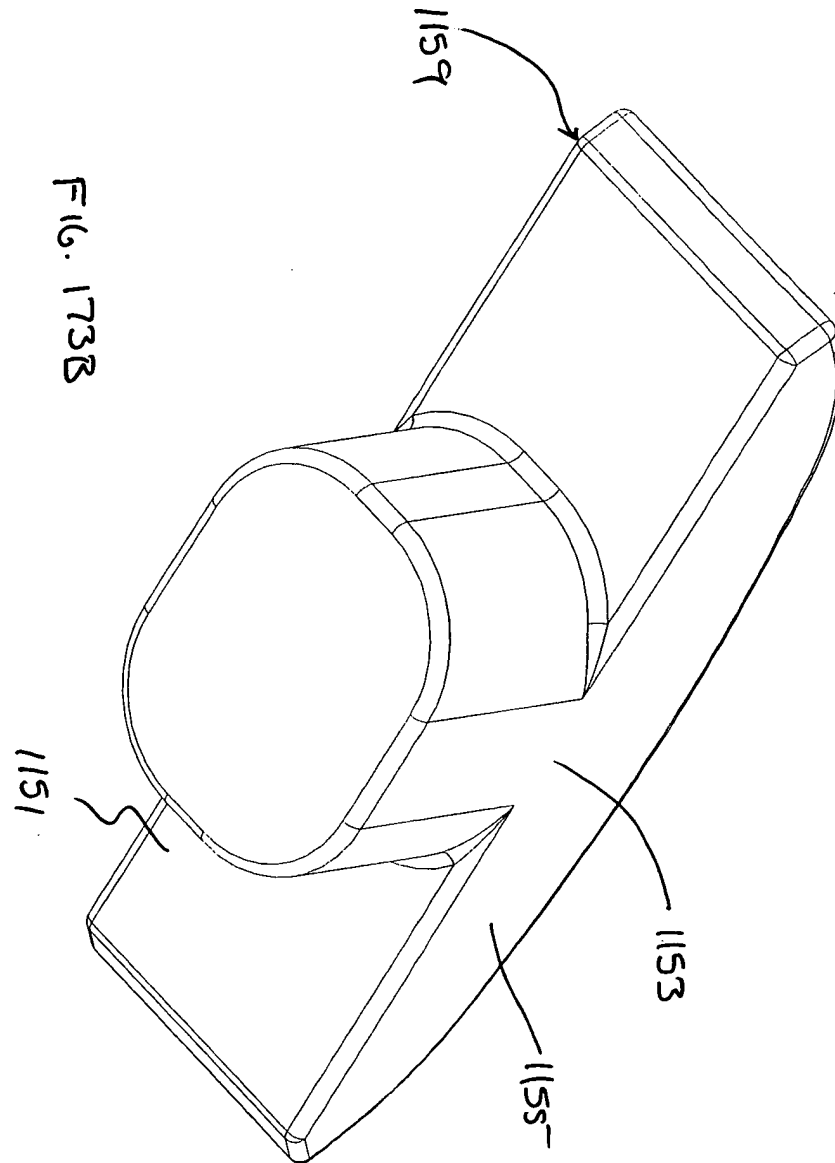


FIG. 1724





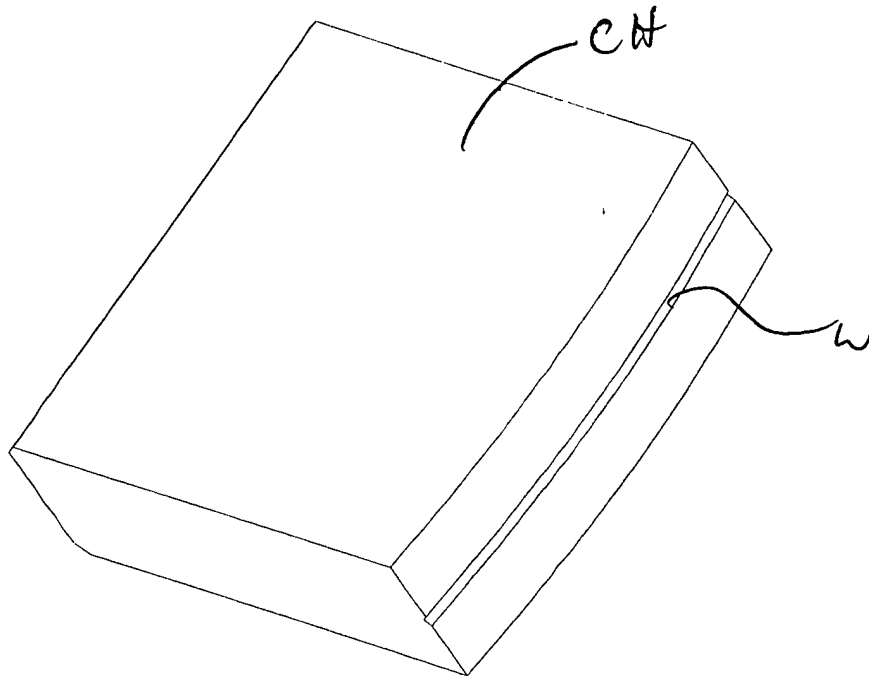


FIG. 173C

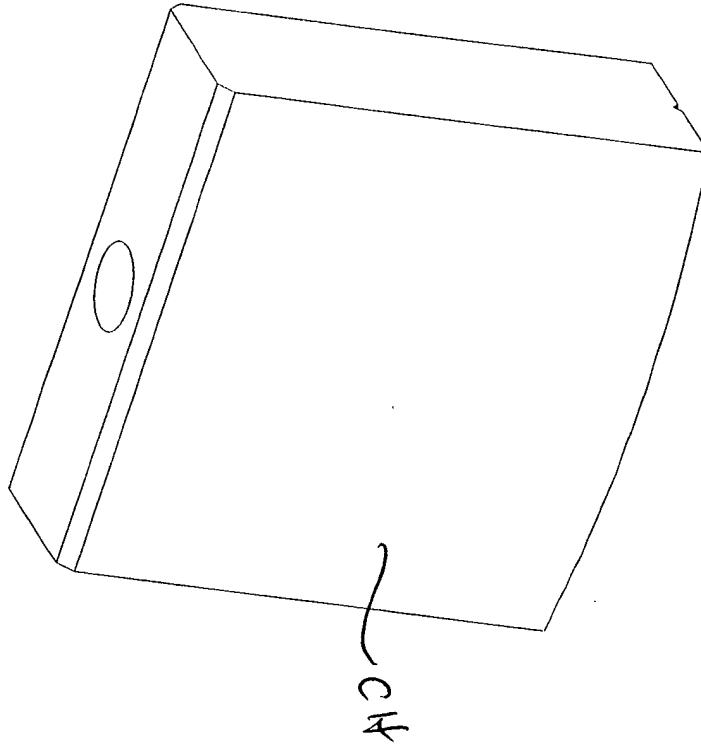
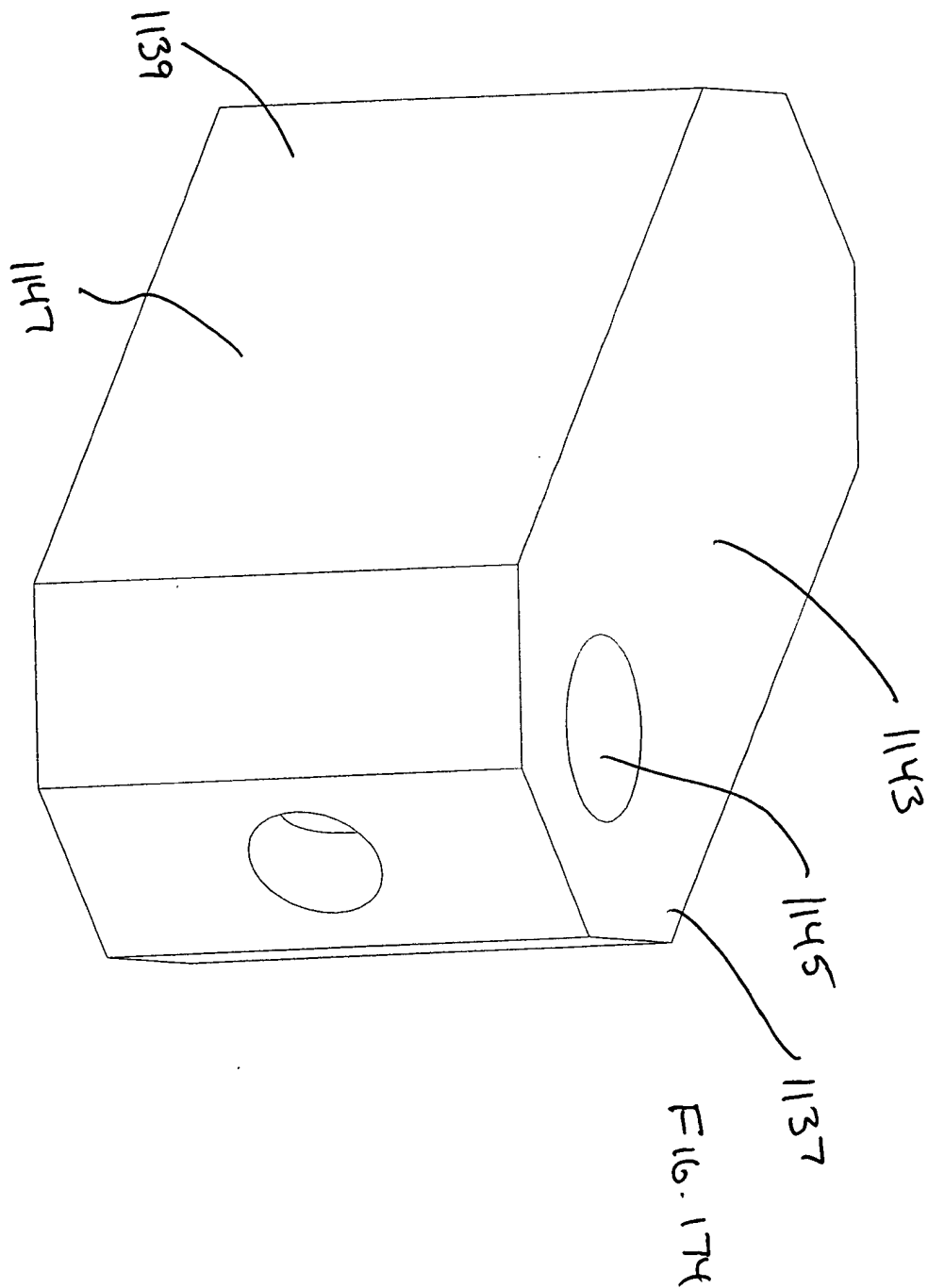


FIG. 173D



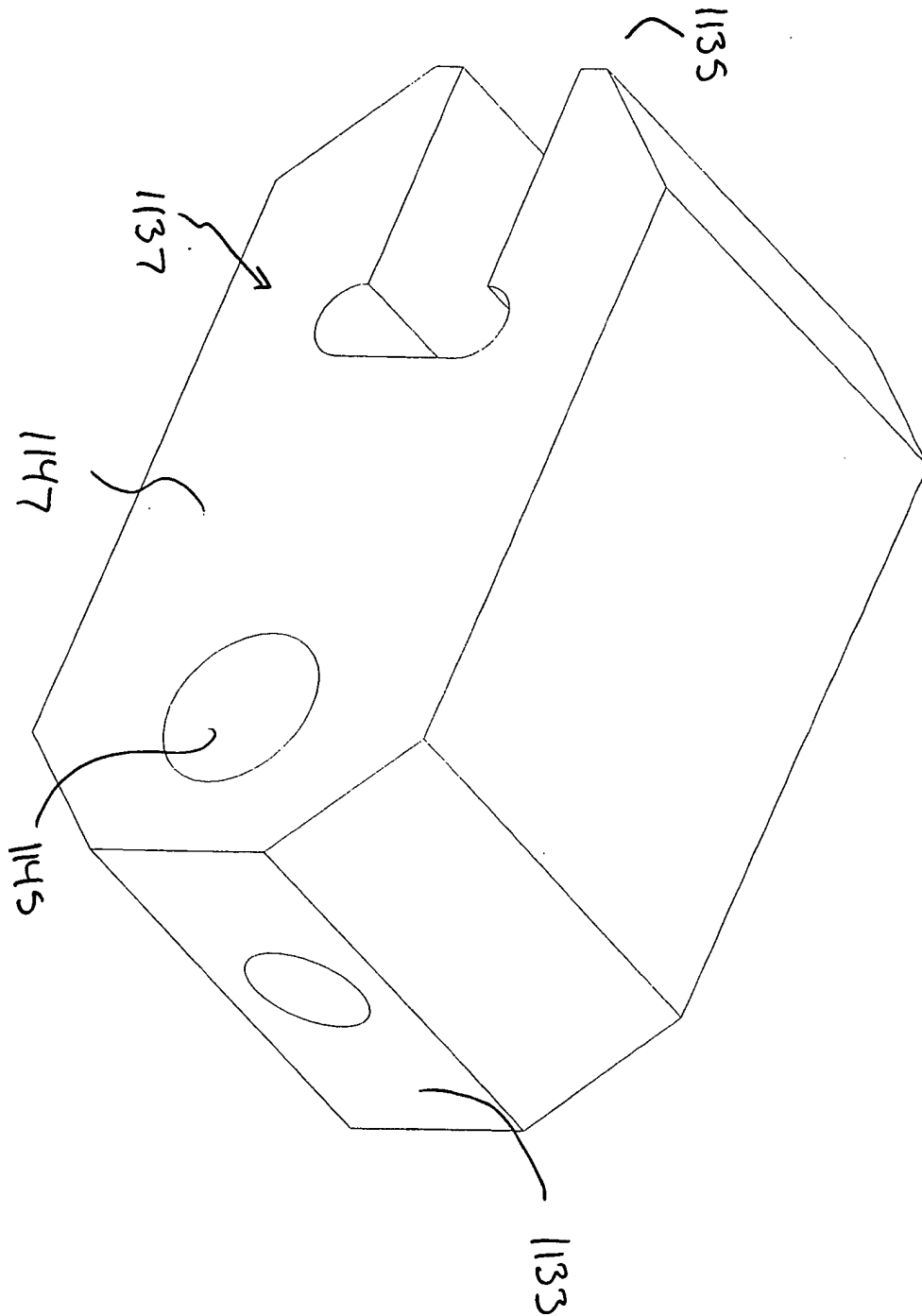


FIG. 175

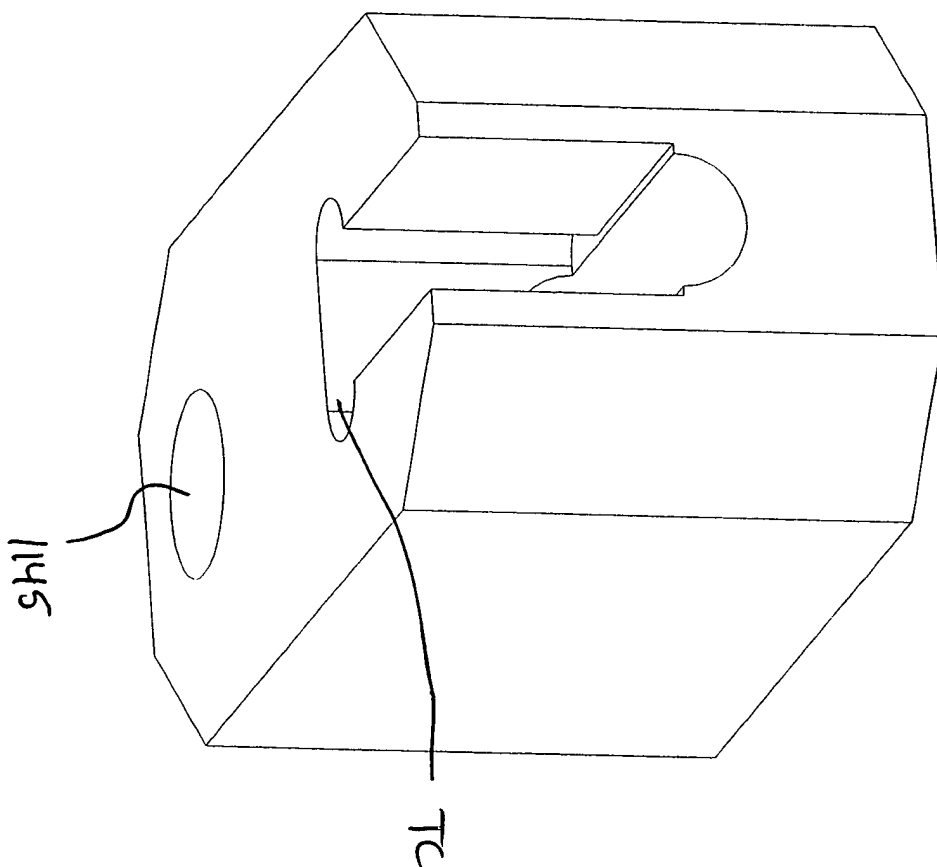


FIG. 17c

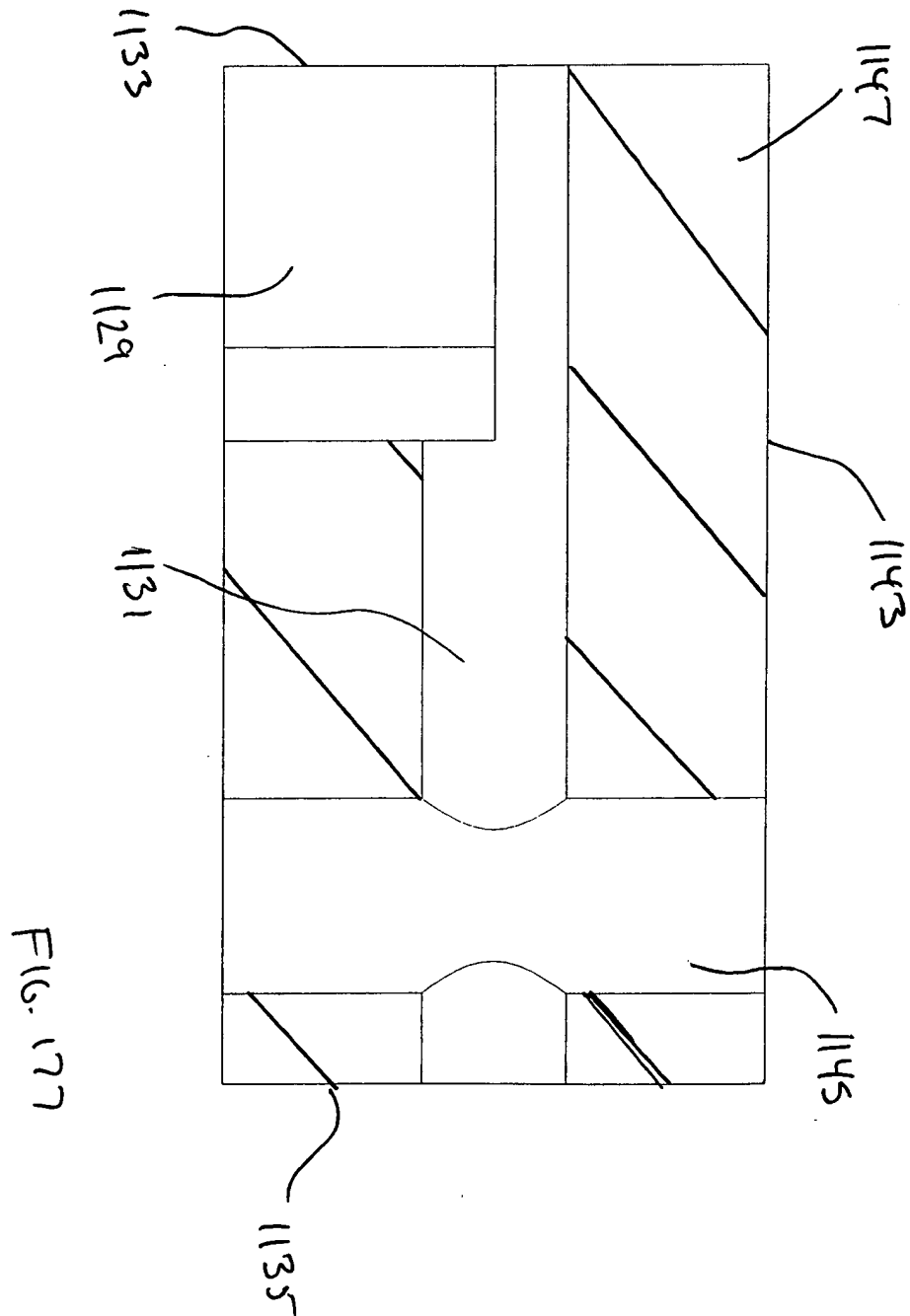
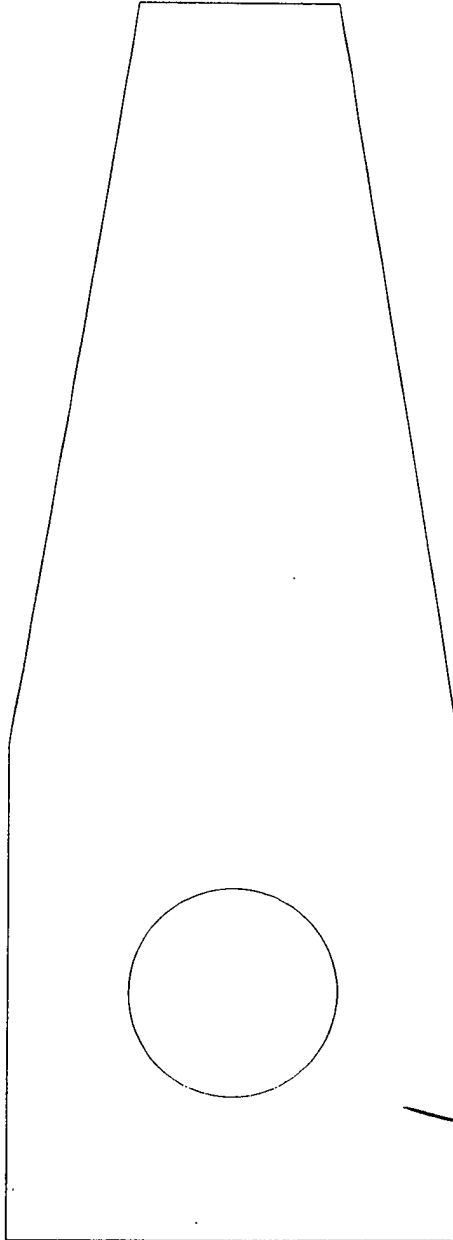
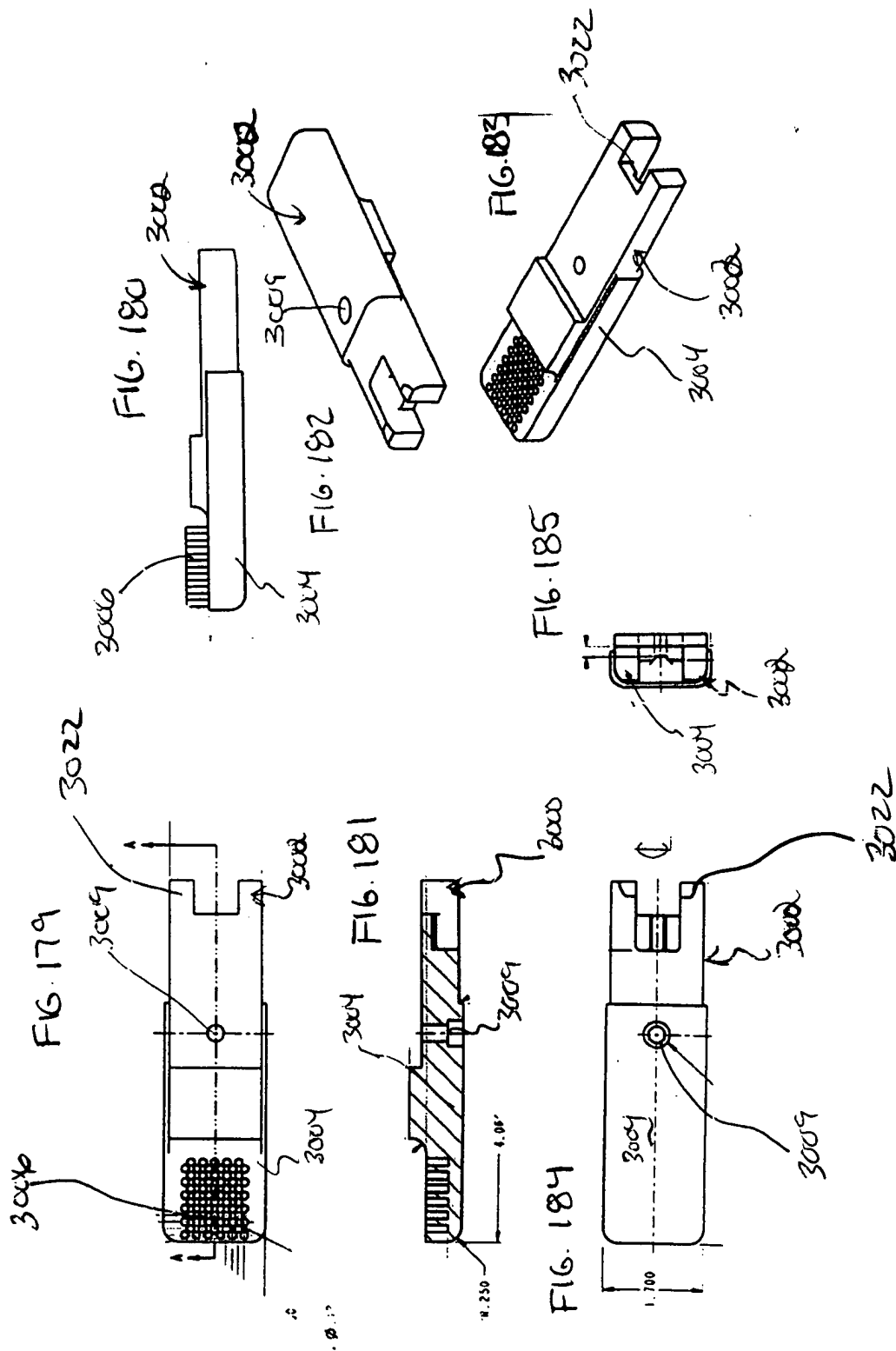


FIG. 178



1113 (111)



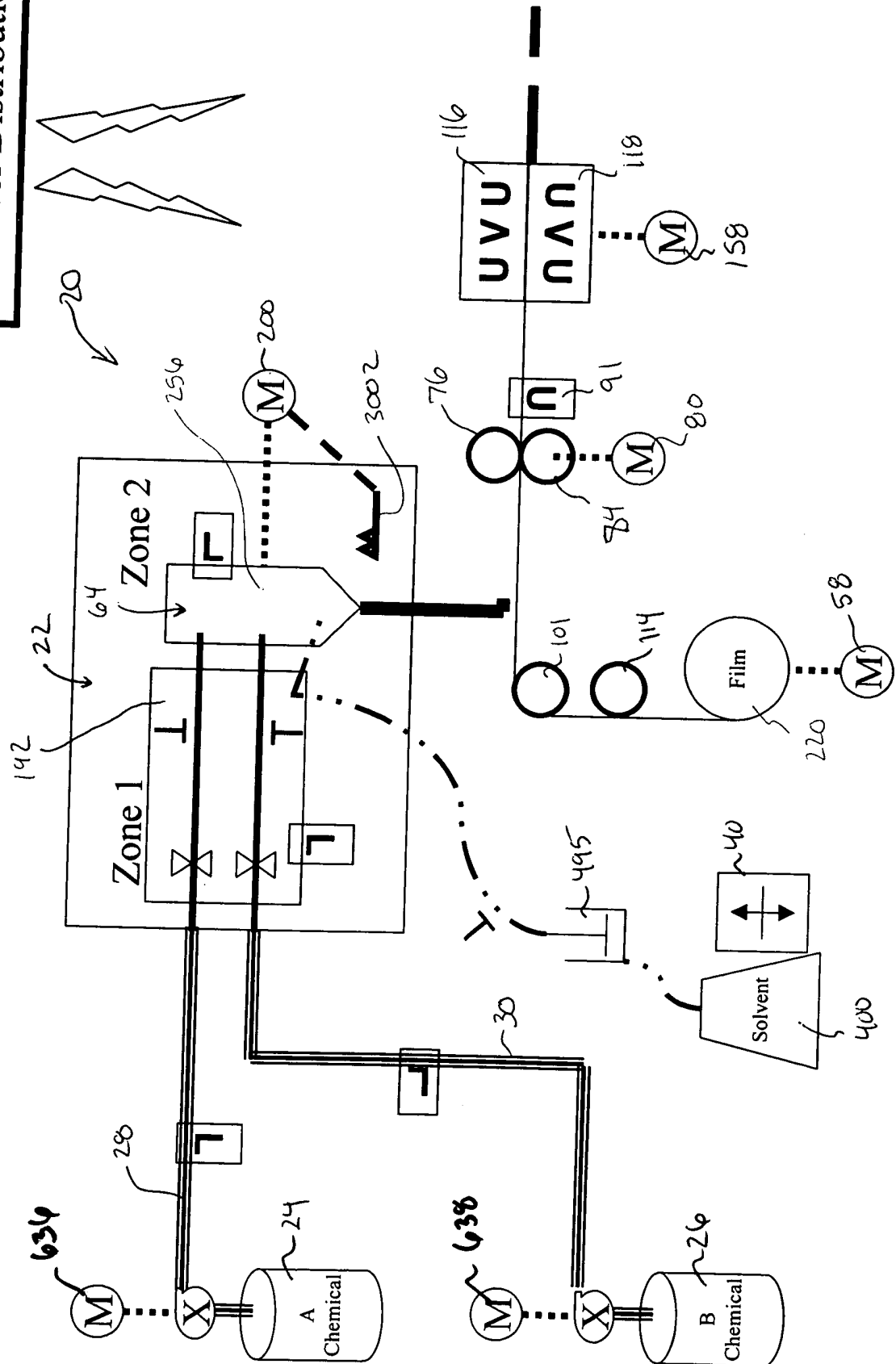



FIG. 186X


FIG. 186A

Legend


 = Motor

 = Linkage

 = Pump

 = Pump Shaft/Hose

 = Heating element (all orientations)

 = Filter


 = Pressure Transducer (all orientations)

 = Tip Cleaning Brush


 = Solvent Pump

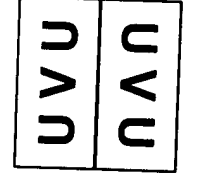
 = Level Sensor

 = Mixing Module +

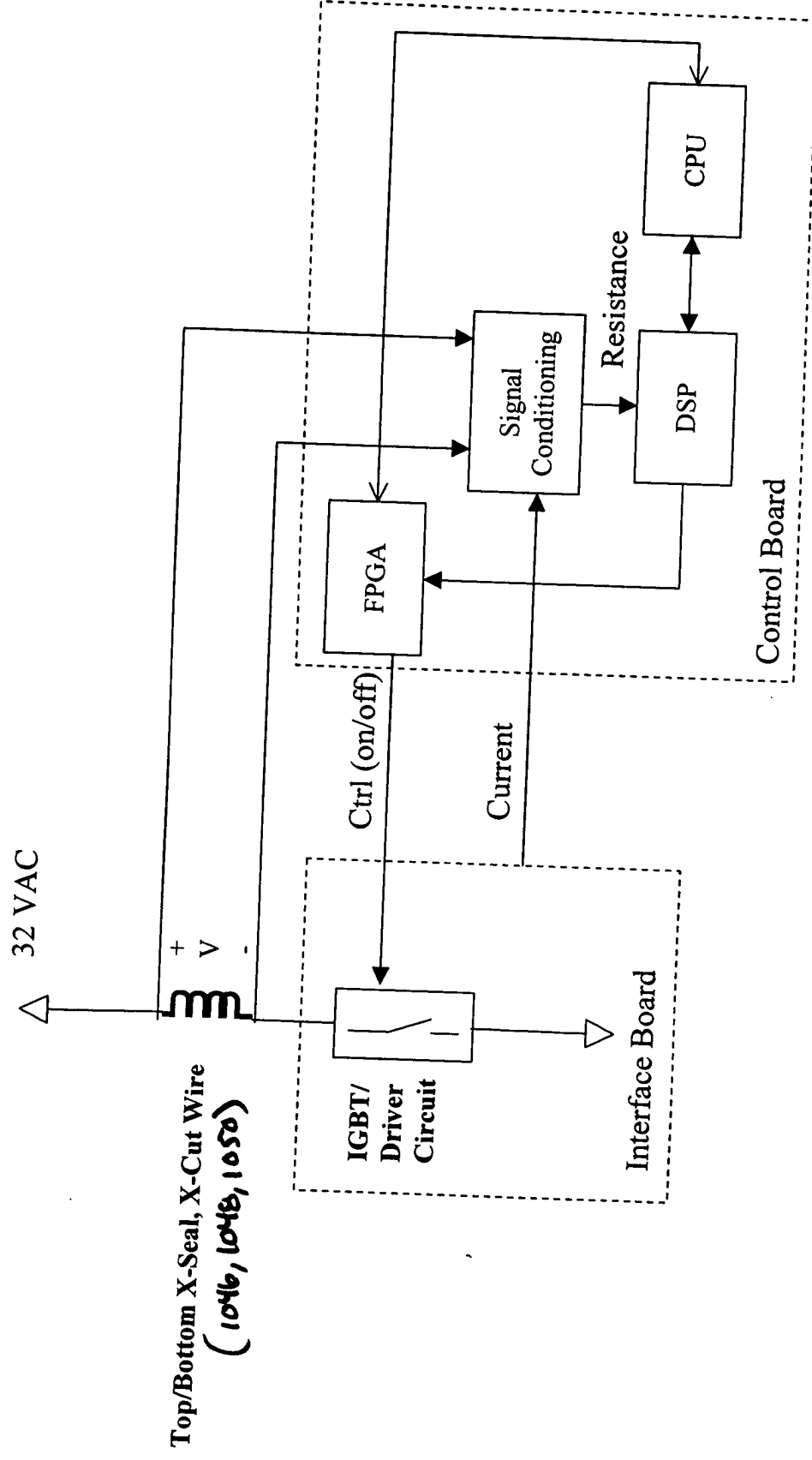
 = Idle Roller

 = Nip Rollers

 = Edge Seal Wire

 = Jaw Assembly
(X-seal, X-cut,
X-seal)

Top/Bottom X-Seal, X-cut



Edge Seal

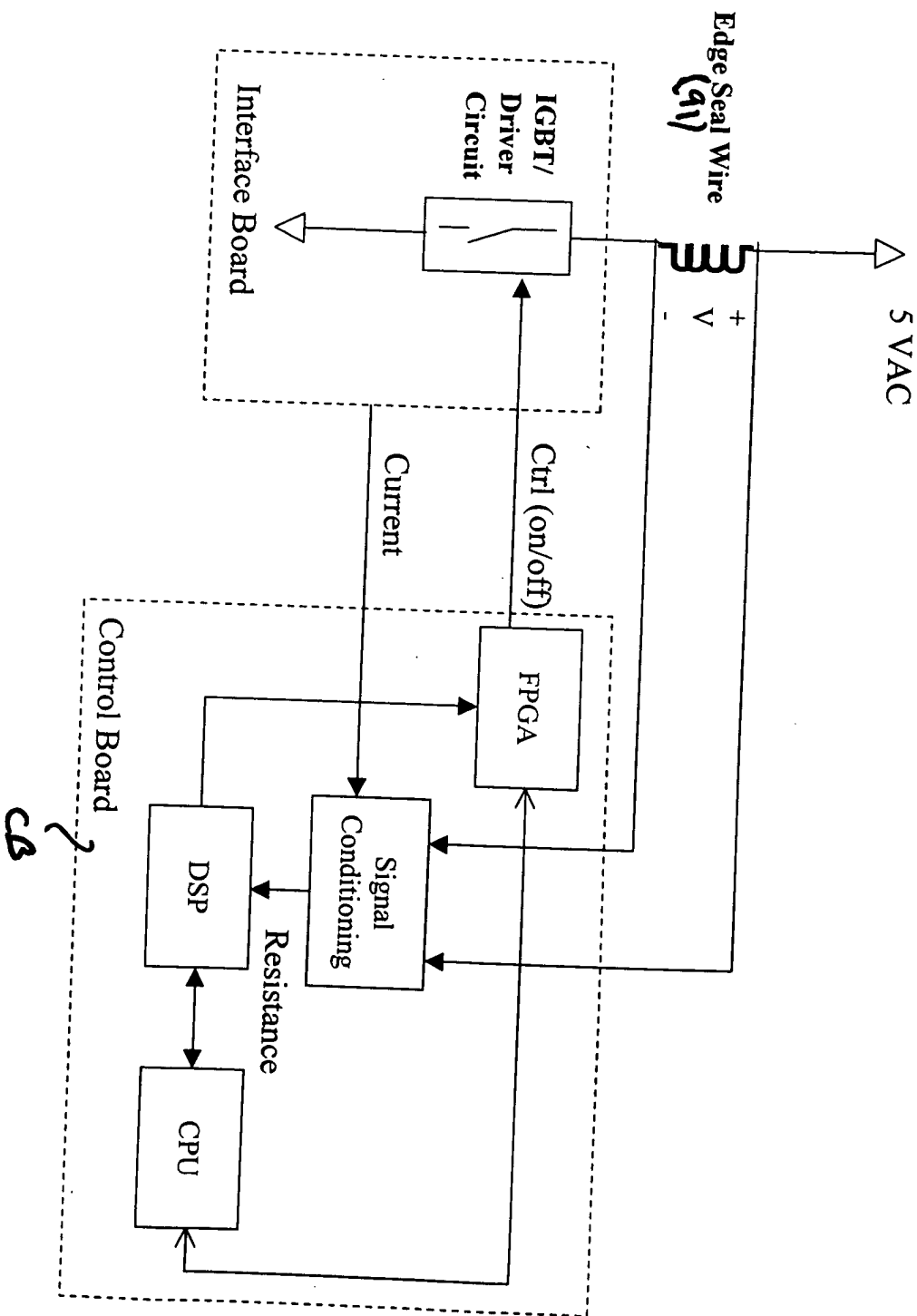


FIG. 188

Moving Jaw

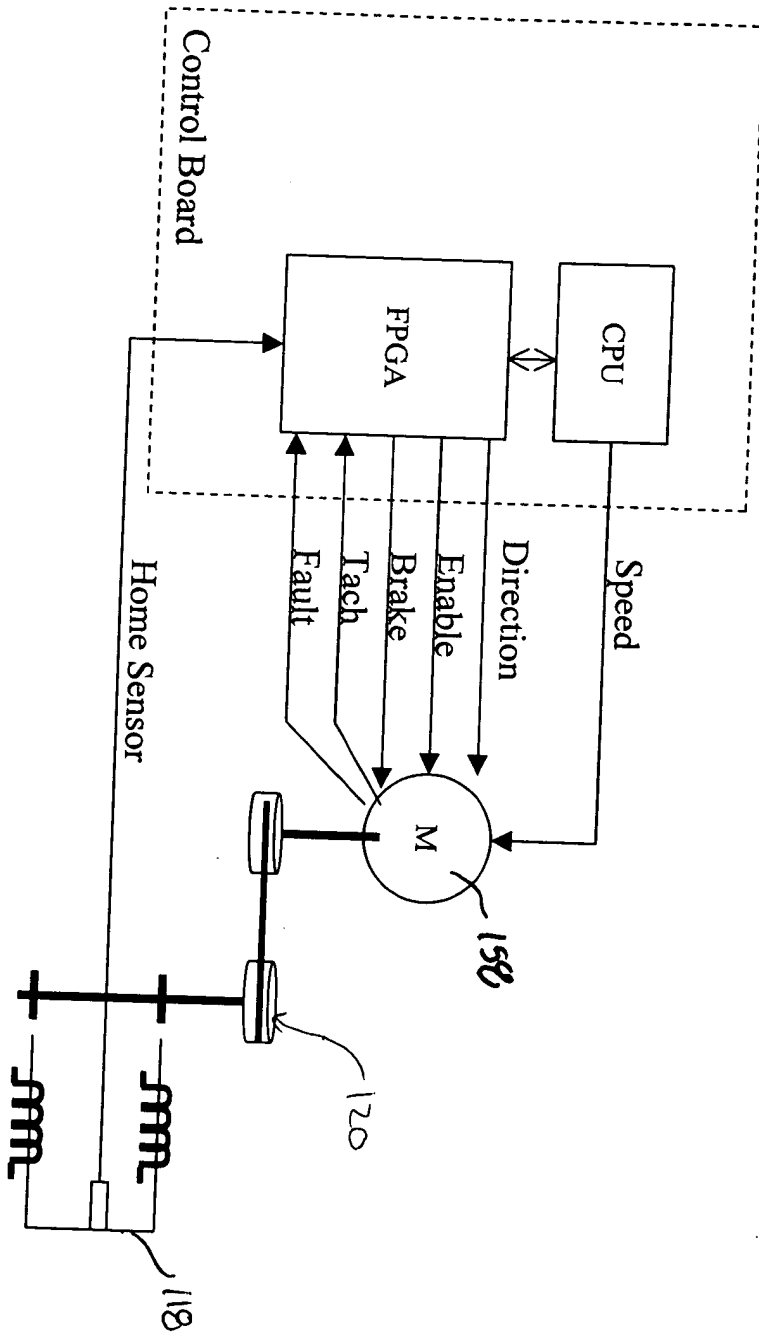
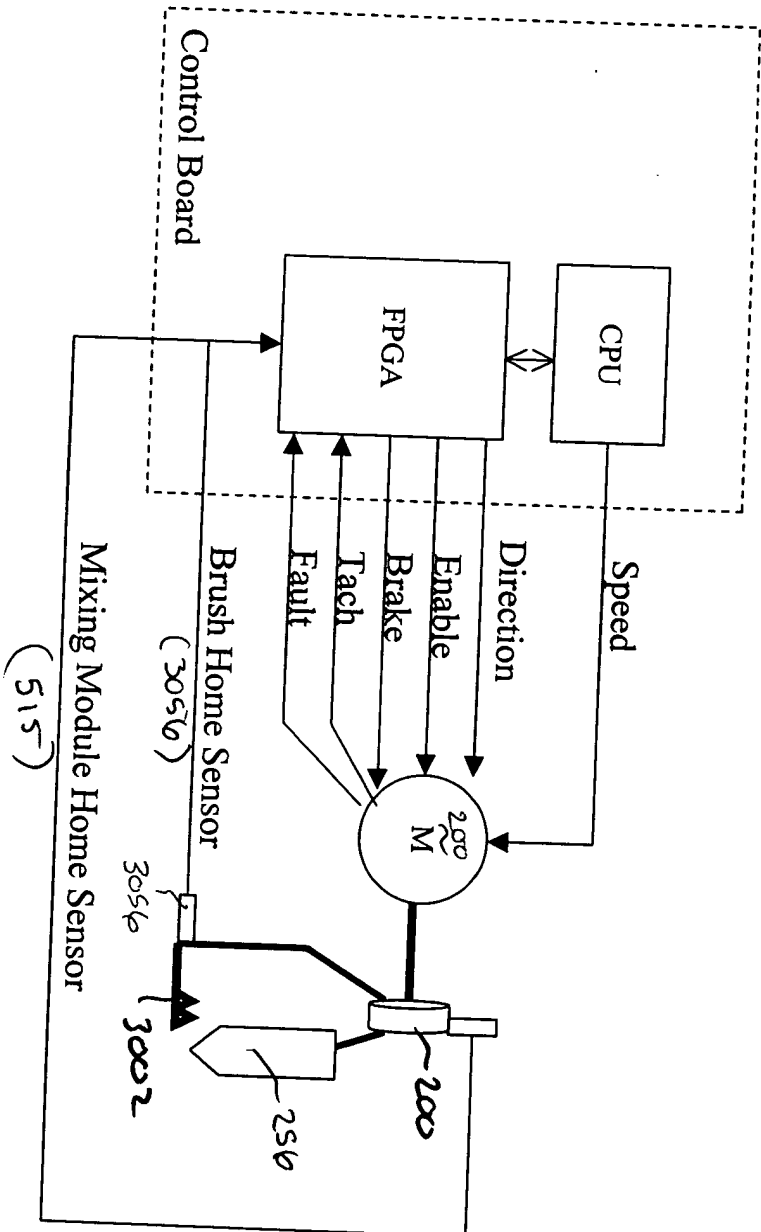


FIG. 189

Chemical Dispensing/Tip Cleaning



Film Advance/Tracking

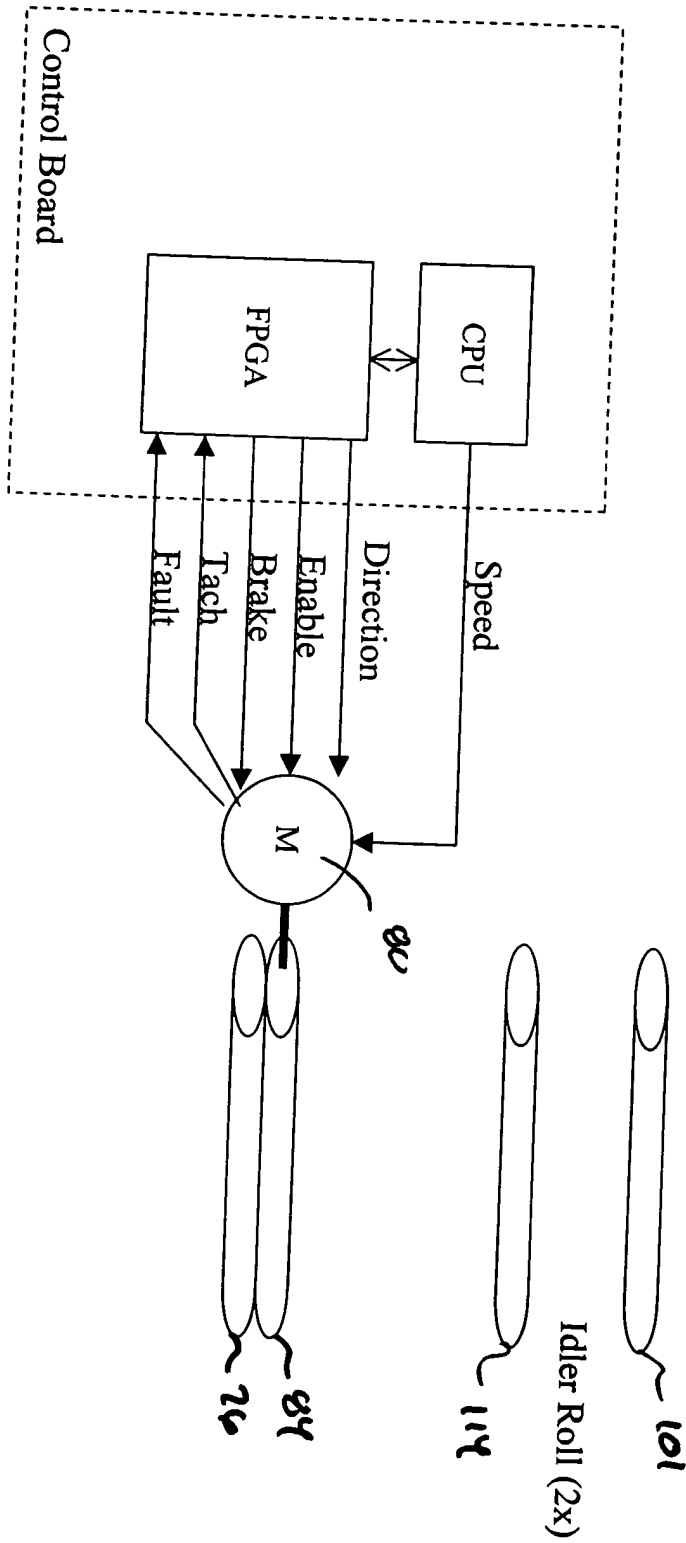


FIG. 191

Film Tension

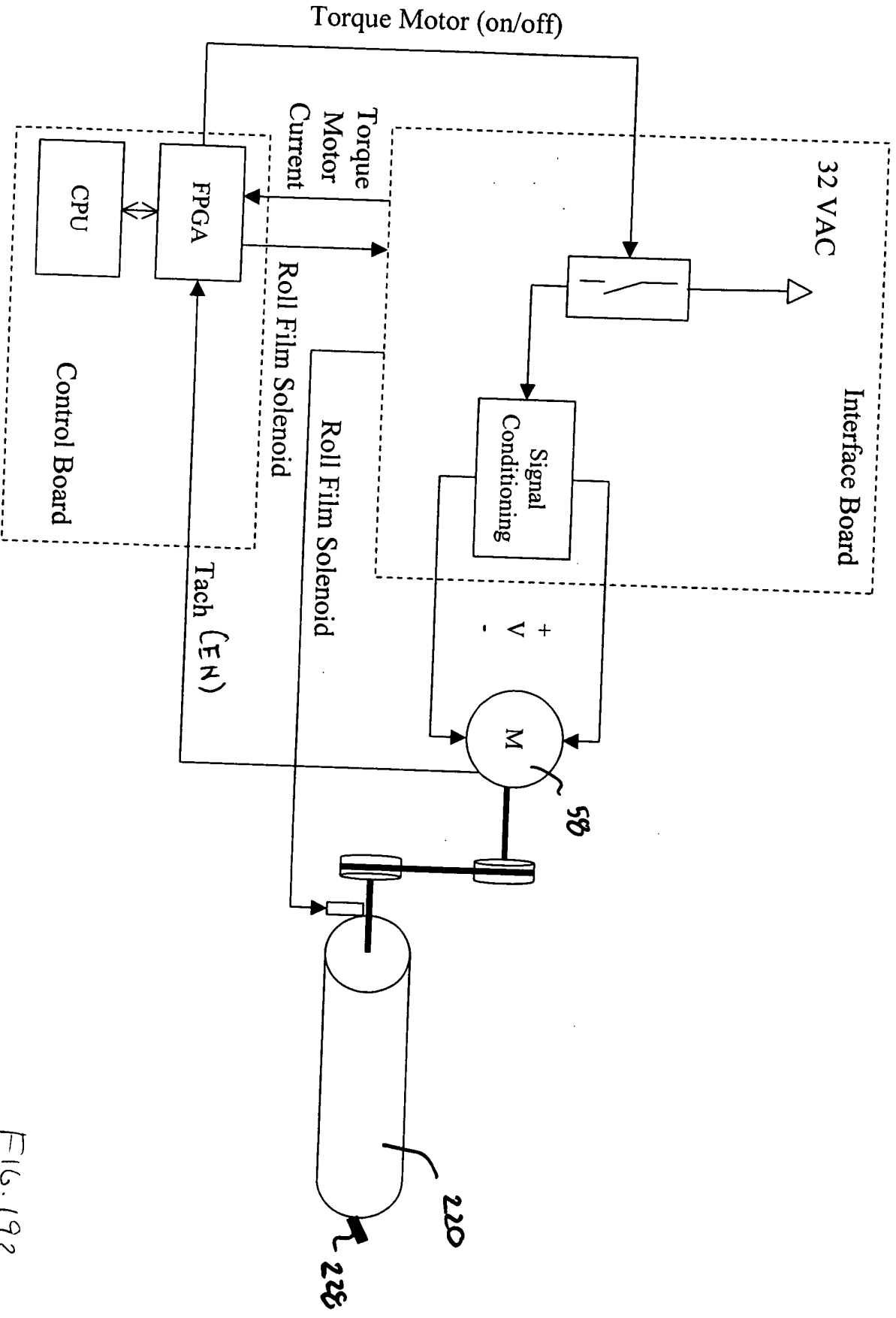
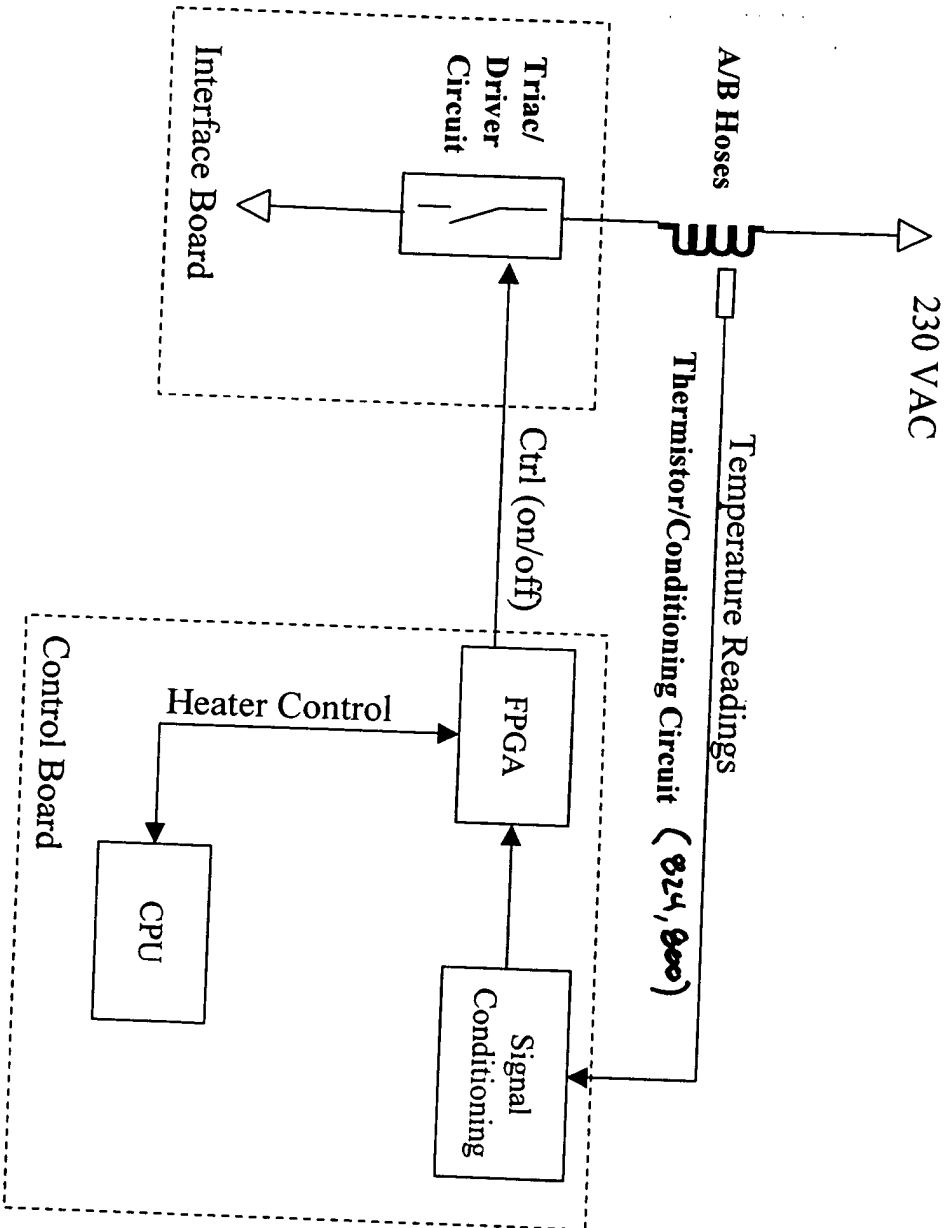


FIG. 192

Chemical Temperature Control (Hoses)



Chemical Temperature Control (Manifold Zones)

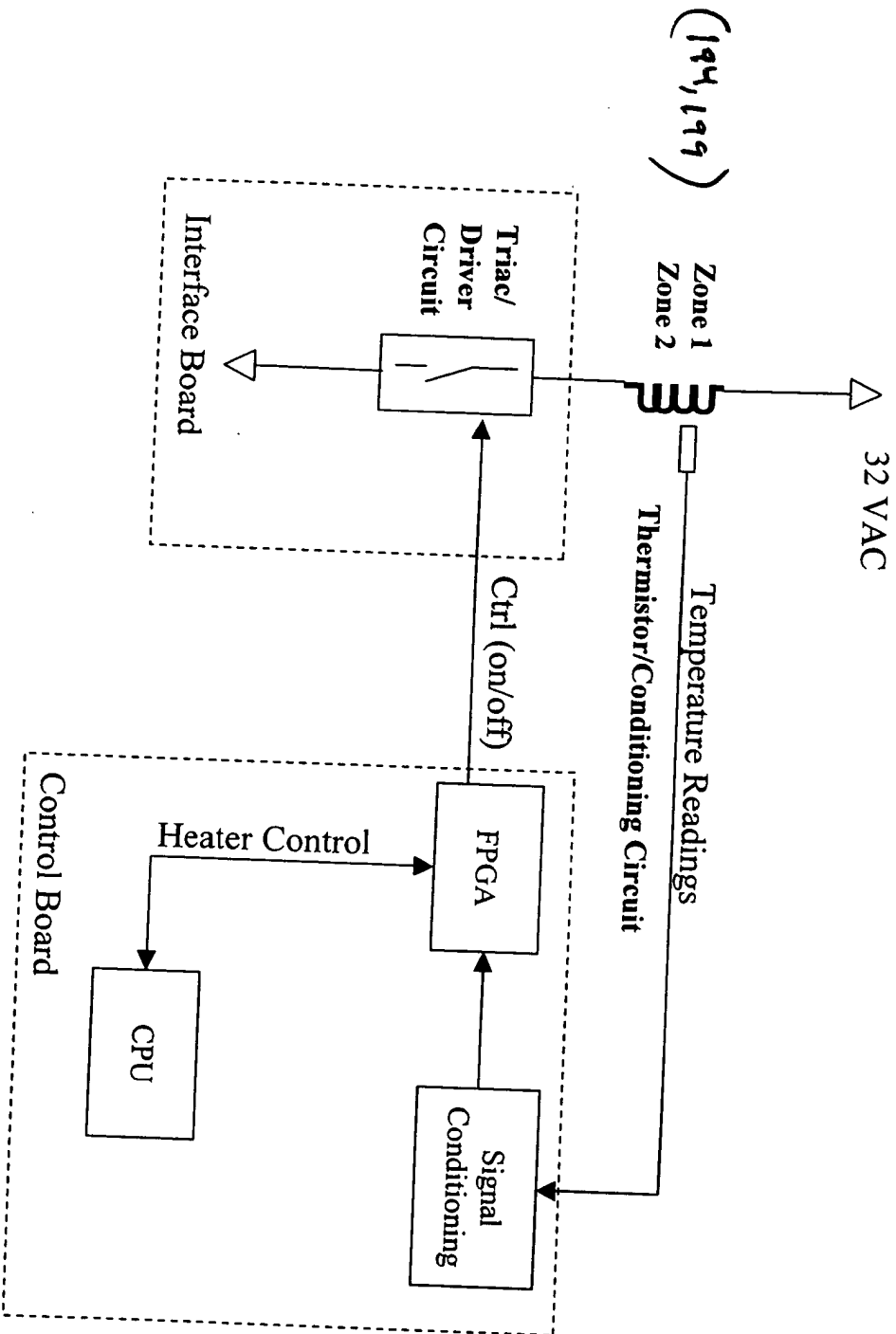


FIG. 194

Chemical Pressure

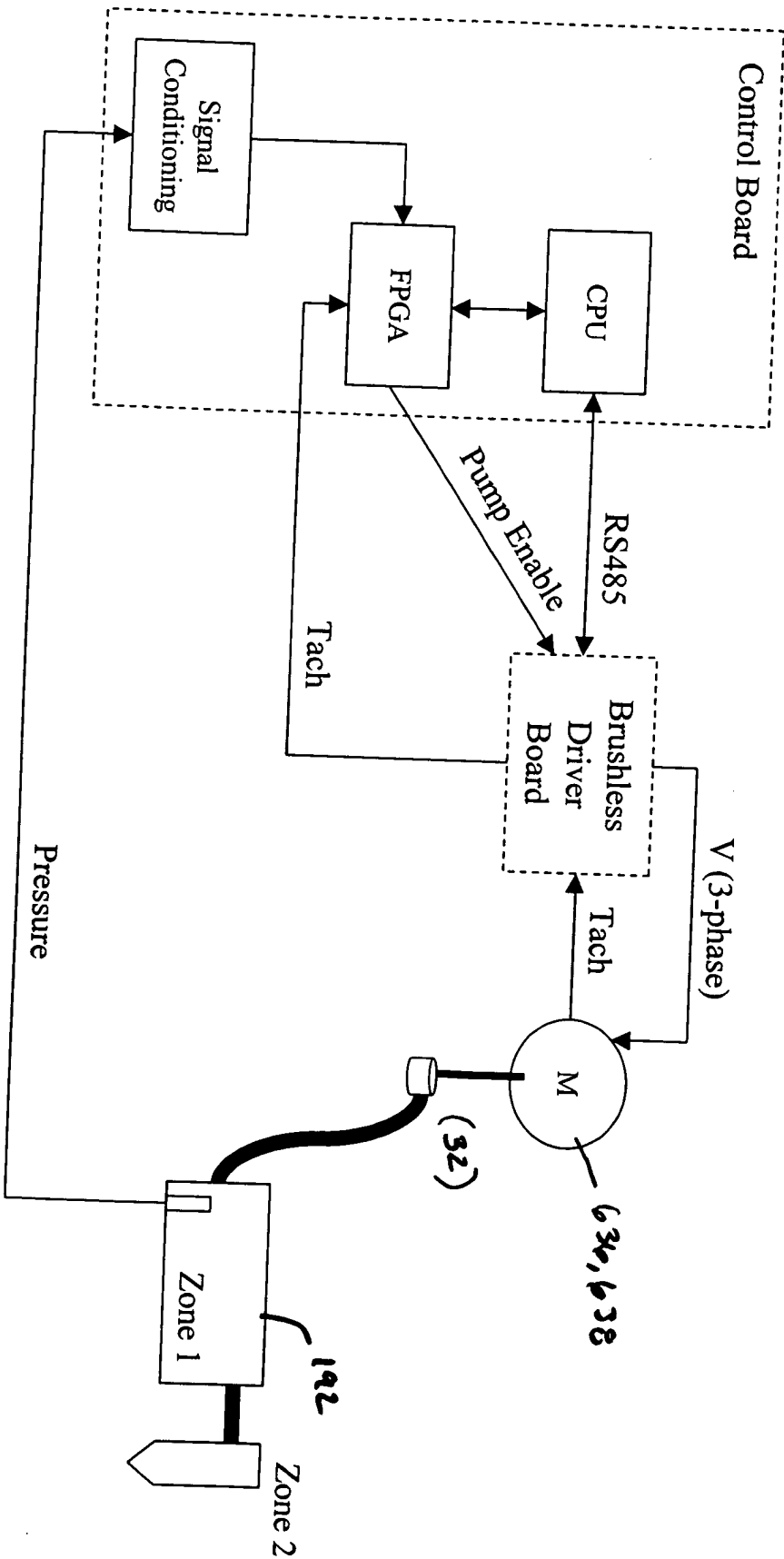


FIG. 195

Solvent System Control

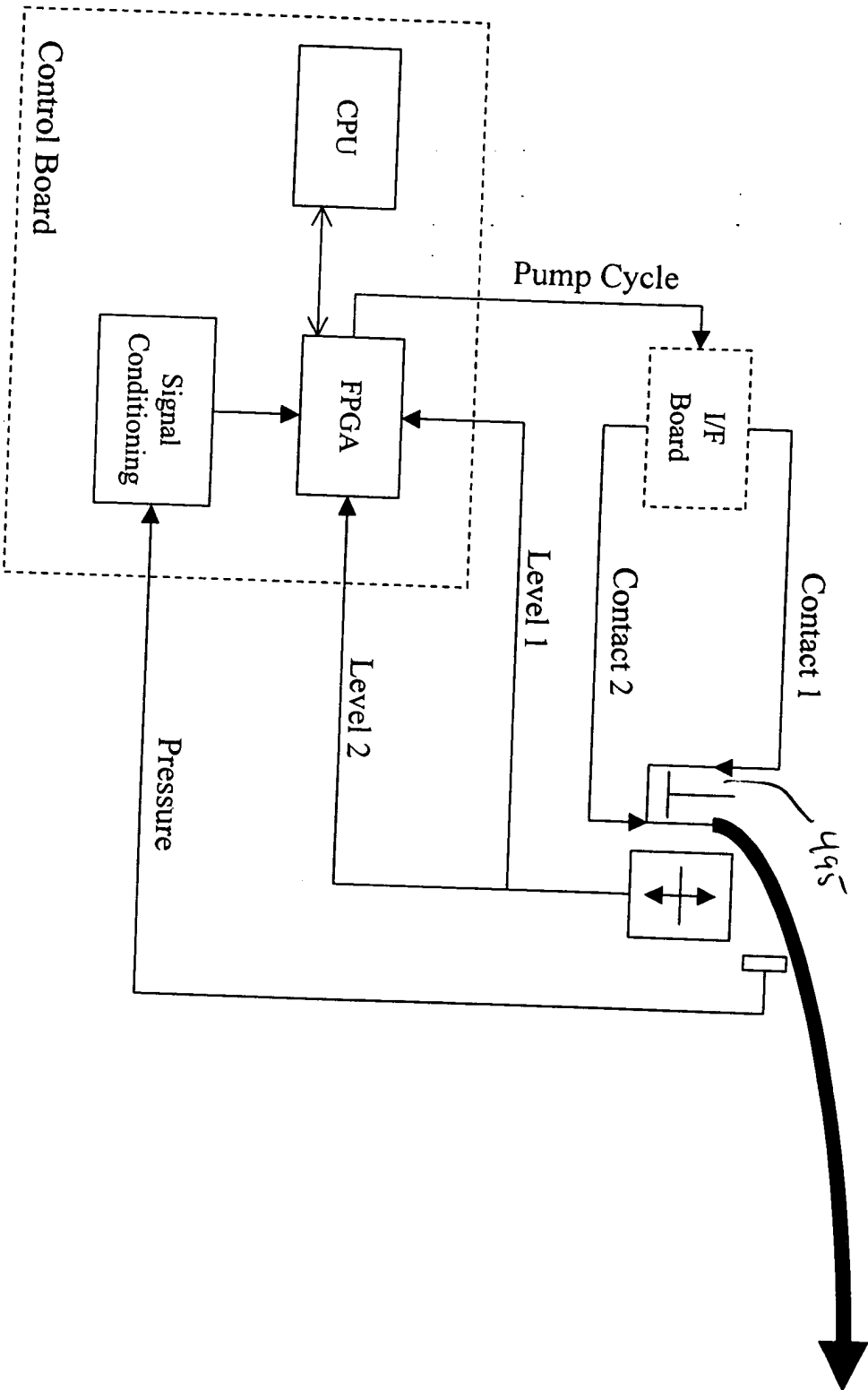


FIG. 196

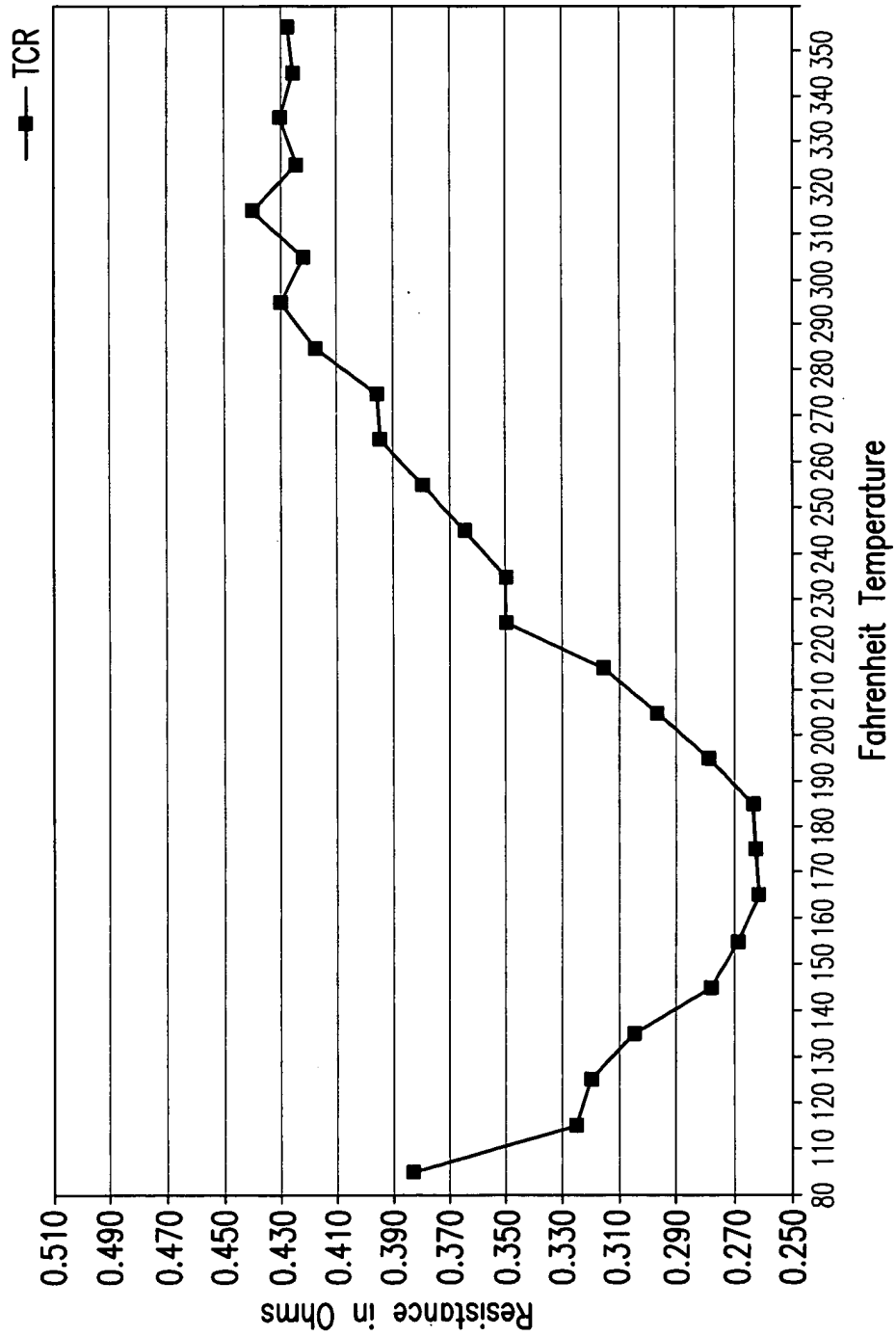


FIG.197

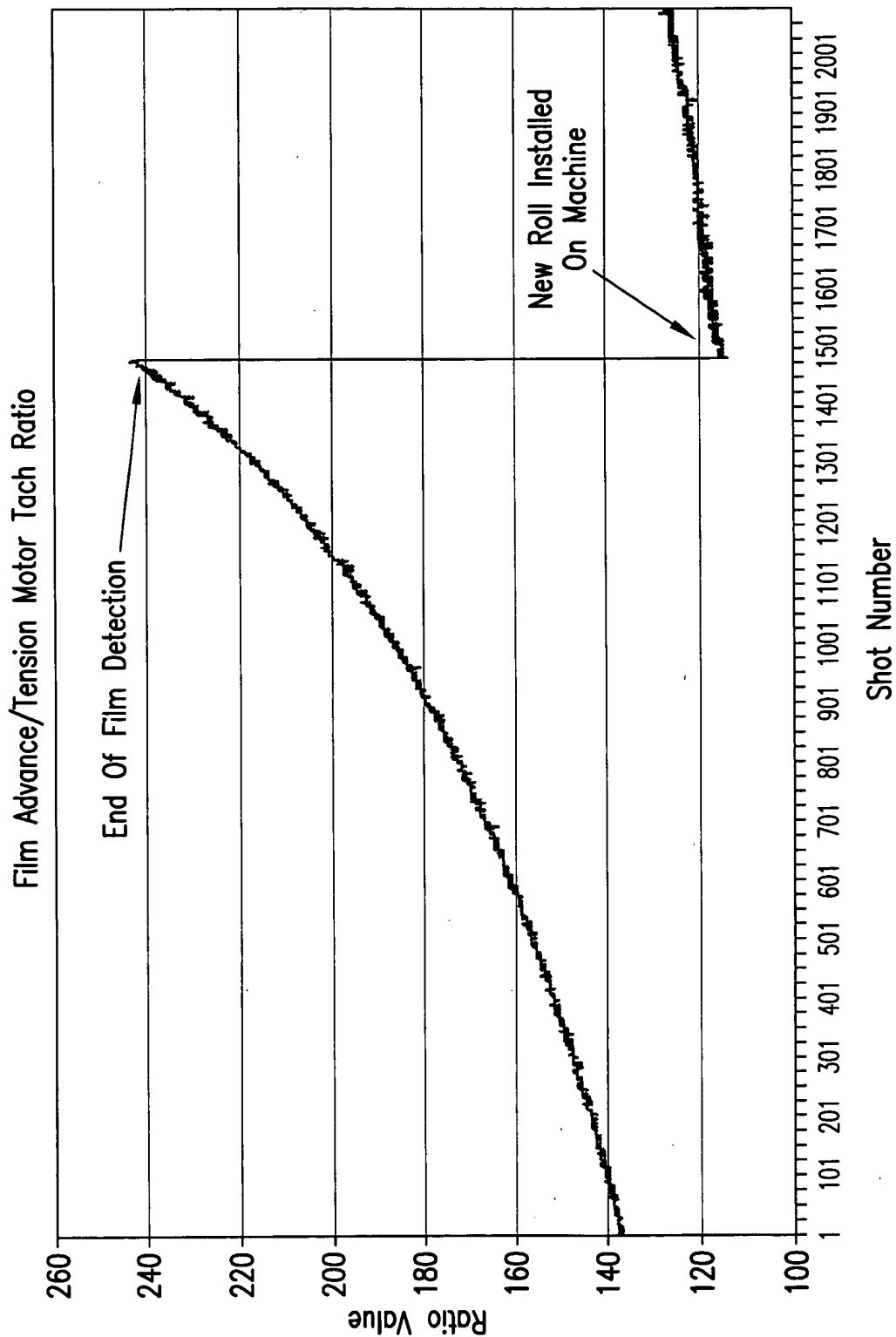


FIG.198

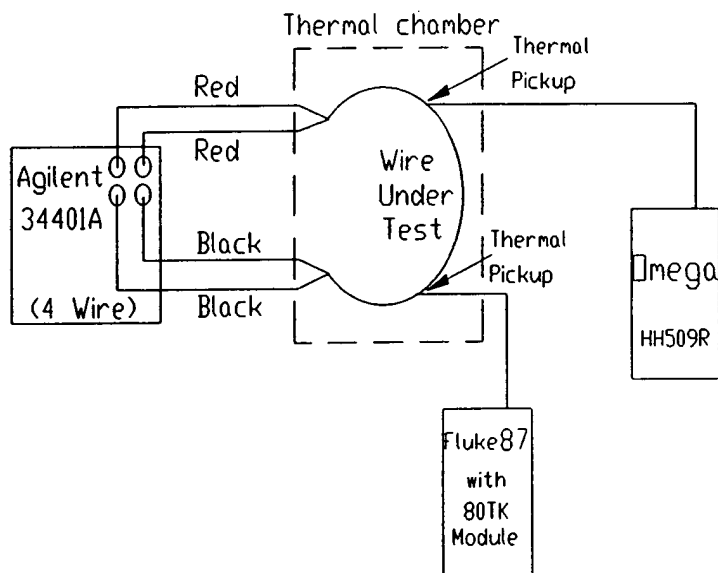


FIG. 199